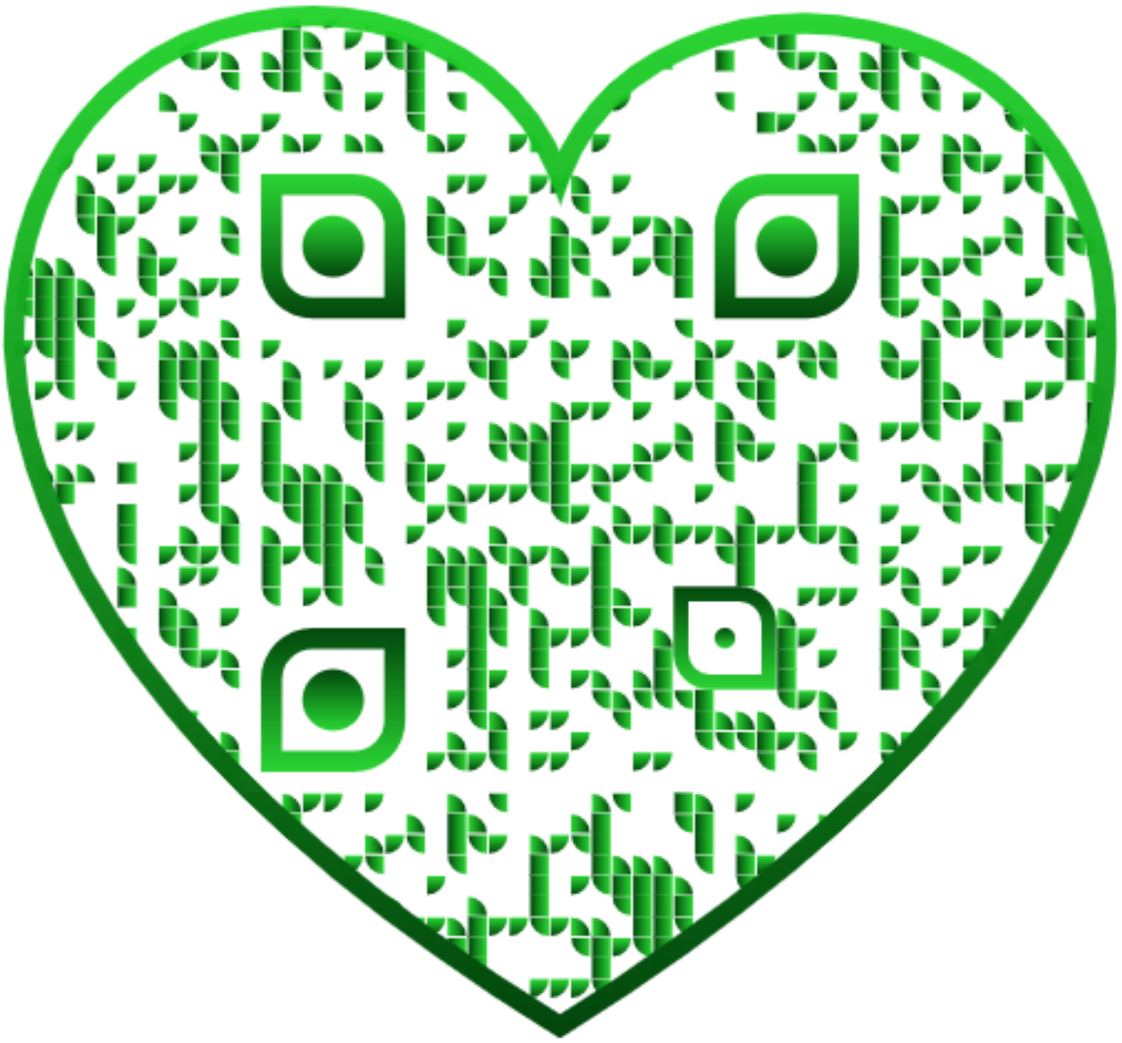
Conspiracy of Silence

and the UFO Problem

Raymond A Robinson



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Conspiracy of Silence & the UFO problem

Introduction:

Understanding the UFO phenomenon...alien technology far in advance of anything we have or would like to have. It is probable that aliens are already embedded within societies on Earth and if they have a similar appearance to us we may not recognise them even when we see them. Were our cutting edge space weapons developed to be used against a future foe yet to show their hand?

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The 'Singularity' dissected...in depth (non-math) description and explanation of 'Multiple Closed System'.

Bibliography & Sources

Conspiracy of Silence
& the UFO problem

Raymond A Robinson

-In memory of a beautiful soul-

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Kindle edition.

“.....I cannot dismiss the UFO phenomenon with a shrug. I have begun to feel that there is a tendency in 20th century science to forget that there will be a 21st century science, and indeed, a 30th century science, from which vantage point our knowledge of the universe may appear quite different than it does to us. We suffer, perhaps, from temporal provincialism, a form of arrogance that has always irritated posterity...”

Quote from Dr J Allen Hynek in an open letter to Science magazine 1st August 1966 criticising the American scientific establishment

Prologue

While UFOs continue to invade our skies, seas and land they capitalize on a poor fragmented and mostly disinterested humanity to maintain a covert presence. Remarkably, there remains an 'in denial' approach to the UFO reality by most governments claiming there is no firm or incontrovertible evidence of their existence despite the ever increasing stockpiles of photos, video and film evidence together with reliable witness reports. Whilst we continue to hear such denials from those who should know better, ordinary people all over the World still persist in reporting unusual sightings and the growing incidence of close encounters, often resulting in what can only be described as kidnapping or abduction. Such events can be considered as serious assaults and can result in changing the victim's life forever. Worryingly, there are also cases where people lose their lives as either a direct result of their interaction with these seemingly implacable forces, or as a result of their physiological inability to rationalise their experience. Therefore, this 'in denial' stance of many governments should not be tolerated any longer.

The subsequent post-traumatic stress of a close encounter with alien beings is hard to quantify. There are cases of course, where no abduction is evidenced and the person involved may have other motives for claiming interaction with aliens or they may even be suffering from a mental aberration. However, primary disturbed states should not be confused with the real effects of an *actual* abduction that may exhibit all the tell-tale physical signs...Let's face it; you would be disturbed and confused if an actual alien abduction happened to you!

We need to step back from it all and take a more balanced view of the phenomenon of the UFO and what the occupants of these strange objects want of us. We also need to get into context all the hyperbole concerning claims of alien technology being integrated into our science. Whilst it is likely that some alien technology (or more likely - alien methodologies applied to some of our existing technologies) has and is being used, we shall see that most claims are probably unfounded.

There is no doubt that some very exotic and consequently very secret technologies are being used in the aerospace sciences. On the 4th August 1999 it was reported that eight witnesses saw a 10.30 am flight of a huge black stealth

type aircraft fly silently parallel at an estimated altitude of around three to four thousand feet to the quaintly named, 'Extra-terrestrial Highway' (was Highway 375 - renamed by the State of Nevada in 1996). This unusual aircraft was accompanied by a single Northrop 'Talon' twin jet trainer (designated T38 by the USAF) at its left wing. Both aircraft seemed to be headed for landing at nearby Area 51.

The witnesses are said to have got a clear look at this strange black aircraft and some of them were former employees of TTI (Tonopah Training Installation). As such they would all have been aware of the Lockheed F-117 'Nighthawk' configuration. However, the aircraft's stunning silence highlighted against the usual jet noise of the T38 was not the most surprising aspect of this sighting. The huge black shape had no discernible vertical fin and observers estimated that it had wings angled back much more severely than the F-117 and was at least five times the length of the Northrop T38. That would make it around fifty-five metres in length (one hundred and eighty feet).

Whilst nothing is in the public domain concerning this huge unknown aero form, the Northrop T38 is well known and Jane's Military Aircraft reveals it is an old design, which first flew in April 1969 and was last delivered new in early 1972 to the USAF. NASA had acquired a total of twenty four aircraft to be used as space flight readiness trainers for astronauts (the US Navy also procured five T38s from the Air Force Systems Command and the German government took delivery of forty six aircraft via the USAF for the advanced training of German student pilots in the USA). The observed lack of any kind of jet noise from the unusual aircraft coupled with the aero form’s huge size and severity of design, do not overtly state that it is the product of alien technologies. Instead, it implies that a very effective web of secrecy has been woven to protect very advanced technological processes developed here on Earth, by us - *not by aliens*.

Modern synthetic micro fibre technologies already result in greatly enhanced structural integrities for aerospace applications as well as satisfying low cross section stealth designs. With that in mind, the application of material science applications have a 'knock-on' effect for more advanced turbo fan engine technologies, quieter and more fuel efficient engines operating with cooled exhaust systems and low IR (Infra Red) detection. Equally, the advances in so called, 'fly by wire' systems and 'real-time' 3D modelling avionics make the next and future generations of very advanced piloted and non-piloted aircraft less dependent on basic aerodynamic principles. These aircraft can only fly by virtue

of their advanced avionic software. All of these technologies are within human capabilities and have been with us for a number of years in one form or another. There is nothing to suggest that such technologies come from alien sources. This is a very important point to consider and I will return to it later.

The September 1980 Flight International magazine carried an illuminating article on stealth technology in which the then US Under Secretary for Research & Development admitted that essential details of stealth research are classified at quote, 'the highest security level'. Dr William Perry admitted that the technology was not new and had been applied to some reconnaissance aircraft - probably SR71s and U2s in the early 1960s and had been used on Tomahawk and air launched cruise missiles in the 1970s. Perry makes a point of stating that the whole stealth effort was subject to the most 'extraordinary' security protection, even going so far as to deny the existence of the programme (See Appendix 1).

It seems that from the start, it was known that new generations of stealth aircraft would have to be designed as completely new projects from the ground up. It would not be sufficient to adapt or modify existing aircraft or other platforms. Perry also stressed that stealth technology studies were hastened because the Soviets had developed high power monopulse ground radars that were difficult to jam. At that time, it was known that the Soviets continued to place very heavy emphasis on the development of air defence missiles to offset any US air power advantage. These radical stealth aircraft have to be flight-tested and some people *will* see them...unfortunately that is inevitable. Whilst the Northrop B2 bomber was being developed many people thought they had seen a UFO above their heads - and of course, they had. The aircraft had been cloaked in the utmost secrecy during its development and eventual rollout.

However, it was not the first time people had seen strange flying wings. The USAF had flown the propeller driven Northrop XB-35 flying wing and later, the Northrop YB-49 - an eight jet engine powered thirty two thousand horsepower flying wing over Southern California in 1946. In the 1950s Armstrong Whitworth in the UK were experimenting with their AW52, a flying wing research aircraft powered by two Rolls Royce Nene turbojets which gave the aircraft a maximum speed of 500mph and a cruising speed of 330mph.

As long ago as 1980, Boeing Aircraft Corporation already had very advanced strategic delta plan form aircraft on the drawing board and had

conducted wind tunnel and radar cross-section tests. At that time they thought their designs were at least 10 to 20 years in the future. Is it too unreasonable to think that some of these designs have actually made it to becoming a reality? Before that, Great Britain had introduced the Gloster Javelin, the first supersonic twin jet powered delta winged all weather fighter in November 1951...a huge visual departure from previous aircraft. In the same year, Douglas introduced the carrier launched delta F4D-1 Skyray interceptor aircraft...so 'strange' looking aircraft have been around for a while.

Perhaps it is pure co-incidence that Kenneth Arnold saw what he described as 'nine bright objects without tails' and originally drawn by him as boomerang shaped aero forms - not disks - which started the 'modern' UFO era. At least one UFO researcher thinks not. Peter Gerston has pointed out that the 'clincher' that Arnold probably saw Northrop's test aircraft over the Cascade Mountains in 1947, not alien space craft, and was a reputed late 1940s photograph of nine flying wings on a runway in California. Even Kenneth Arnold thought what he saw was a secret government project.

An important milestone in our technological development was the invention of the transistor and it is difficult to see how we would have developed modern society without it. It is commonly accepted that the transistor was invented in *1948 jointly by Walter Houser Brattain, John Bardeen and William Shockley at Bell Laboratories in the USA (for which they jointly shared the 1956 Nobel Peace Prize). The device *had* to be invented if the new computing technologies were to develop with the promise of untold riches that a new machine age would bring us.

*Nikola Tesla may have pre-empted the trio by *forty five years* (author's emphasis) with his March 17/April 14 1903 US patents 723,188 and 725,605 respectively concerning the basic principles of the logic gate (See Notes).

Whilst we may have previously acquired alien technology which fortuitously coincided with our known science at the time, there should be no suggestion that we got the transistor as a direct result of the acquisition of alien technology, whether it was gifted or otherwise...that would be laughable. It is logical to assume that alien visitors would be wise enough (and certainly technologically capable) not to risk a situation where our science would receive technology far in advance of anything we had at the time. To do so, would cause accidental cultural interference of the worst kind - powerful enough to

cause severe imbalance in Earth cultures and economies because the technologies would be so much more advanced than our own. We are intelligent and could have worked out the technology with little problem. Duplicating some of the pure alien technology scientists had in their possession would be another issue altogether…particularly if that technology could not integrate with our existing scientific understanding and knowledge.

The current drive to produce smaller and smaller electronic components should result in a miraculous promise for our future, especially in the biomedical field. Miniaturization has resulted in computer memory chips as small as five hundred nanometres, equivalent to five hundred billionths of an inch (the term 'nano' is equal to 10^{-9} or one billionth). Functional batteries have been made where one hundred devices would fit into a single human red blood cell! These microcircuits did not come from alien technology, but originally from a process called photolithography that uses light to map electronic circuits. Photolithography has been around since 1960 when it was found to be the best way to duplicate integrated circuits. A system that employs Scanning-tunnelling microscopy (invented in 1980) is also currently used to create ultra miniature devices and no doubt extensions of this kind of technology will be developed to overcome the inevitable problems science will encounter in the future.

The history of the laser (the acronym stands for Light Amplification by Stimulated Emission of Radiation) is also interesting as some consider it to be as a direct result of demonstrable alien technology. In his book, 'The Day After Roswell' [1] Colonel Philip Corso claims that scientists from the test firing range at Alamogordo (New Mexico) had found that the occupants of the crashed craft at the 1947 Roswell crash site seemed to have used very advanced wave stimulation instrumentation which appeared to have some relationship to a basic microwave generator.

Scientists were already aware of microwave generation principles but, they retrieved a 'short, stubby, internally powered flashlight device that threw a pencil-thin, intense beam of light for a short distance that could actually cut through metal' from the wreckage. Corso comments that a question still remained as to how the EBEs (Extra-terrestrial Biological Entities) use wave stimulation, and perhaps more predictably, how his team could integrate this militarily valuable asset into current existing military product development. Even though a 'short, stubby flashlight type device that could cut through metal' was some way off our prioritized science development at that time, the

underlying science for the laser had been predicted as long ago as 1900 by the German physicist Max Planck when he developed the idea that light, heat and other forms of radiation came in tiny bundles which he called quanta. He developed his idea into a precise mathematic equation that came to be known as Planck's Constant.

Later, Albert Einstein proposed that it would take a precise amount of energy to knock an electron (a negatively charged particle) loose from its orbit and he was found to be right through experimentation. It was established that each electron sits in a certain 'energy state'. It can only move to a higher state by absorbing a certain amount of energy i.e., a quantum of energy (see Appendix 1) whereupon it makes a quantum jump. An electron can drop to a lower energy state by discarding energy in the form of a photon (a particle associated with light).

The ability of atoms to emit photons of radiation when electrons drop to lower energy states made the laser possible. The laser works by 'pumping' energy (adding energy e.g., another light source or perhaps an electrical charge or by initiating a chemical reaction) to typically, a rod of transparent crystal or a tube of gas or liquid with a half silvered mirror at one end and a fully silvered mirror at the other end. Whilst some electrons will be raised to a higher energy state, others will fall back and emit photons. Photons that do not travel along the axis of the tube are lost, but those that travel along the axis are reflected back by the mirrors. As they strike other excited atoms they create a cascade in which these atoms are induced to emit photons of the exact energy level (or wavelength) of the stimulated photons. This creates an intense, coherent and highly focused beam of light from the half-silvered end of the tube. Because the wavelength is determined by the characteristics of the atoms in the material that is used, the light beam can therefore be made to carry a great deal of energy over distance without much degradation. The next generation of lasers includes microchip lasers and lasers which can produce infrared, ultraviolet and even X-Rays.

Significantly, the laser was preceded by the 'maser' (an acronym for Microwave Amplification by Stimulated Emission of Radiation) and was conceived simultaneously by both Soviet and American scientists at about the same time. The first practical maser was made by Charles H Towns using ammonia gas and was demonstrated at Bell Laboratories in 1958 (later to be used in 'Project Echo' an American satellite reflection experiment in 1961). Col.

Corso states that by 1954 he was aware that the US Security Council was receiving reports of a theory developed by Townes concerning the viability of a maser the assembly of which took place at Bell Laboratories in 1956). Incidentally, the nomenclature, 'laser' did not at first catch on and initially lasers were called 'optical masers'.

This rather abbreviated and simplified history of the first laser illustrates that we are not helpless and certainly not dependent on technologies which fall from the skies. My conviction is that any alien race who covertly visit other worlds would make it a very high priority to ensure we did not get our hands on technologies that awaits us in our future, whether it be the distant future or otherwise – we might use it offensively on the donors to get our hands on even more of their technology! It is therefore reasonable to assume they would choose to implement their programme using as much of our science as would be necessary, tailored to fit their requirements and needs. Aliens who may have travelled across vast distances of space-time would inevitably use technologies largely unrecognizable to us, even if we could understand the scientific principles involved. It is very unlikely they would be using hardware that would just be a decade or so away from our grasp.

Human history is essentially concerned with problem solving. If we don't solve the problems we are not evolving. The real problems we face are not always concerned with the new technologies themselves, but rather in the way they are publicised, delivered and used. A great cause for concern should be the widening gap between the technologists and ordinary people...not all of humankind are hi-tech consumers!

There is a real risk that people will reject the fruits of technology because they have not been involved in the process. This is already being seen in the furore surrounding genetically modified material which is being spliced into the human food chain and the way in which it may soon be possible to screen out human imperfections by replacing or modifying damaged genes before they become a problem using in-vivo interventions. People are right to be wary of these processes, particularly when they are not empowered or listened to by the decision makers.

Perhaps an even greater global worry is the imbalance of power between the technologically rich nations and the technologically poor nations. If there is one element of our increased knowledge, which could

bring us all down, it is that. Of course, the visitors would be aware of this but there is no evidence to suggest their active intervention to redress this imbalance by sharing out the fruits of their science. This suggests that either they have no interest in sharing anything with us collectively, or that they have only given their secrets to one nation and left it up to them to sort out whether or not there shall be any distribution.

If the visitors have allowed what amounts to a cabal within one nation technical superiority over all other nations, it should set alarm bells ringing all over the World. We are only too painfully aware of the damaging asymmetry that such an advantage would cause. In the period of just one century we have witnessed many incredible advances through the application of the sciences. From the first crystal radio sets in 1906, and the invention of the transistor in 1948 it took just another fourteen years to invent the mini-computer by Digital Corporation in 1962. In 1961 Yuri Alekseyevich Gagarin performed the first manned space flight and incredibly 1969 saw Neil Armstrong, Michael Collins and Edwin 'Buzz' Aldrin Jnr. going to the Moon. And yet still we remain largely disconnected to the deprivation and suffering of mankind over much of the Earth.

In 1984 there was gene cloning, in 1988 patents were filed for new animal life and in 1991 first controlled nuclear fusion reaction occurred. Now, in the early part of the twenty first century we have mapped the complete human genome in the knowledge that even if we knew the complete DNA sequences of all living organisms we still do not know how they assemble themselves during their development. Ultimately, the blossoming of this knowledge will give us complete control of our own destinies - for better or for worse.

Human discovery and understanding can be likened to an exponential curve on a graph. Exploration, new methods of communication and the rapid assimilation of ideas which result in team achievements as well as individual triumphs all play a part in this incredibly rapid technological evolution we witness almost daily. Most times it is hard to keep up, even for professionals - pity the layman. The computer is playing an essential role in this rapid growth and will continue to do so as even more powerful machines emerge that will be indistinguishable from a ‘real’ human. If most of our technical wizardry comes what we now see stems from a few pieces of alien hardware, there can be no testament to human ingenuity and invention and much of our struggles to understand our reality throughout our long history will have been based on lies.

Unfortunately, the rise of the computer as a trusted and faithful servant into our everyday lives does incorporate many serious risks to individual freedoms of expression and thought that we all tend to take for granted and our societies are changing rapidly as a result. Our willingness and naivety to hand over personal data to government agencies, or to our transitory politicians, sold to us on the basis that our lives will become safer and more enriched is a trade that may have very negative effects for us in the long term. What better time for an alien nation to take over any 'threat nation'* by grabbing the electronic keys of control to our food, medical treatment and freedom to travel wherever we choose?

We are already at risk from electronic interception on a routine basis whether or not we are criminals or international terrorists. This is the dark side of technology. We should resist all persuasive overtures by those who would sell us the utopia of better promises by handing over our lives in an exchange that will inevitably result in a very one-sided affair. One day sooner than we think, we may even become actively controlled to think in a particular way.

*For 'threat nation' read, developed nation. The so-called 'Third world' would not constitute a threat to any alien takeover.

If, as some suggest, the visitors are already embedded on our Earth it may be too late or too dangerous to attempt an eviction (even if that were possible and their human collaborators permitted it). Whilst current nuclear non-proliferation treaties forbid nuclear weapons in space there is no agreement at this time of writing on the use of other weapon systems and there are advanced plans to weaponise space with powerful lasers that could, in theory at least, strike anywhere on our planet with comparative ease as well as anywhere in space within killing range. These weapons will include the US Chemical Oxygen/Iodine laser (COIL) which is capable of sustained high energies and is known to have excellent metal cutting capabilities especially on exotic aircraft alloys. Other schemes might include the development weapons capable of firing magnetically driven tungsten bolts from space at ground targets (so called 'kinetic' weapons).

There is no doubt that the space based laser works best in the space environment due to the lack of the atmospheric 'aerosol effect' that diffuses the power of the laser. However, the validity of using such exotic and very expensive systems to counter ballistic missile threats when even the mightiest

powers have been proven to be so vulnerable to primitive so called 'asymmetric' attacks. Could it be that these space borne weapons are being deployed for a more covert reason, *for defence against a formidable foe yet to show its' intentions?* For defence against an enemy we do not yet know but one that is familiar to our *embedded* visitors?

Notwithstanding the above, there is alleged evidence to show that some pieces of unknown technology may have fallen from the skies and that we have attempted to find out how and why it works, and for what purpose it is intended. Given the backdrop of what is known about them through their actions, the visitor's mission is unlikely to be benevolent and they are here for a number of specific reasons, none of which will give us collectively a hand up on the technology ladder as some people believe.

I am indebted to many sources and would like to particularly thank Lockheed Martin Skunk Works whom have always been very helpful and as open as secrecy laws allow. Thanks also go to NASA and the NRO for taking the time and trouble to give me information not generally available in the public domain and for their openness in doing so. I would also like to thank British Telecommunications Laboratories and the Biomaterials Partnership for their technical input and help with difficult subjects and also Professor Kevin Warwick for his thoughts on implants. Our own long suffering MOD should also get a mention here as they have to operate daily politely answering probing questions about UFOs and being harried by investigators like myself. Paradoxically, Government cut-backs may give them some respite as records become available via the Public Records Office at Kew. An acknowledgement must also go Malin Space Systems, providers of the raw images of the Mars Global Surveyor Orbiter seen later in this book. The original incredible images represent a fraction of the total taken by the Mars Global Orbiter over a period of time and are still accessible from the archived data sets at http://www.mss.com.moc_gallery/ but they are not easy to find.

In the final analysis, the UFO subject is about just ordinary people whom are the subject of the visitor's attention, not about hardware or technology, as interesting as that is. I would also like to thank many anonymous or unwitting contributions from usually lone researchers into the esoteric and exotic - long may they continue their exploits in a quest for the truth within the vast sea of uncertainty that surrounds all humankind. One day we shall know the answers to our questions concerning these visitors to our World. The fear of them and

their strangeness might evaporate if and when we eventually join our galactic family. In the meantime, we need to keep vigilant to ensure our understanding and analysis of them continues at least as fast as their reported increased presence on our Earth. We can only do that with the help of open governments who trust the governed and who are not fearful of losing influence and control. Our governments must lose the fear of becoming like Tantalus, a son of Zeus who was punished for revealing the secrets of the gods. If we are to trust them…they must trust us. I do hope this book stimulates a desire in the reader to try and understand our very strange reality more than we already think we do. Any errors or omissions are of course my own.

Raymond A Robinson - West Sussex 2012.

Chapter One

Vibrant Earth

As everyone knows, the Earth is the third planet out from the Sun, which is approximately 149,573,881 kilometres distant (92,960,117 miles). The Earth is classed as a 'rocky' or stone type planet and has a mean radius of 6,370.95 kilometres (3,958.70 miles). Scientists believe the Earth was created with the rest of the Solar System around 4.5 billion years ago. Several theories have been formulated to explain how the Solar System - and therefore the Earth, came to exist. It is now thought that it occurred as a result of a gravitationally collapsing cloud of dust, debris and gas. This is called the 'Protoplanet Hypothesis'. There are currently nine known planets in our solar system including the small world of Pluto (being more like a satellite than a planet although recent discoveries has found that Pluto has at least four attendant satellites) discovered by Clyde Tombaugh in 1930.

Our planet has a distinct equatorial bulge that causes a lengthening of the day by about one millisecond a century. This is caused by friction and is known as 'Secular Variation'. It rotates around a central axis approximated by the North and South poles and is angled at 23.5% to the perpendicular.

The Earth currently takes 365.2422 days to rotate around the Sun in an elliptical orbit. In that orbit it travels at an average speed of 107,293 kilometres per hour (66,672 miles per hour) and is decreasing in orbital velocity by 0.53 seconds a century. The Solar System is located on the outer section of one of the arms of our Galaxy (The Milky Way) and our Sun is dragging all its planets through space within that spiral arm at about 250 kilometres a second (150 miles a second). The apparent movement of the Solar System is toward Constellation Lyra and our Solar System completes one revolution around the Galaxy's centre in about every 200 or 250 million years.

Our planet is measurably affected by its weather systems and during the period 1982-1983 a particularly severe El Nino was blamed for a 5,000th of a second rotational slow down (or increase in the length of a day). A similar slowing down event occurred during 1990 when the length of a day increased by another 2,000th of a second due to extreme Westerly winds across the Asia Pacific area.

We are also painfully aware that the Earth is a very active planet volcanically and magnetically. Continents and landmasses 'float' on a sea of plastic like magma. The Earth's magnetic poles constantly change and may move several kilometres a day. Because of that, the magnetic poles are not symmetrically opposed to each other and even total reversals of magnetic North/South have occurred a few times in Earth history. The Earth has a teardrop shaped magnetic field that protects it from the lethal high-energy particles spewed out constantly from the Sun. Scientists have speculated that eddy currents are responsible for the magnetic field and heat released from radioactive elements in the Earth's conductive outer core creates that field.

Most of our planet is covered by water forming almost 71% of the surface area. The remainder, which represents all the land mass, is less than 29.5% much of which remains uninhabitable due to being arid desert or frozen wastes. Highest temperature in the shade was recorded in 1922 in Libya where it reached 58º Celsius (136º Fahrenheit). The lowest temperature was recorded in 1983 at Vostock Station in Antarctica when it reached -89º that is -128.6º Fahrenheit. All life on the surface of Earth exists between these two extremes.

During various times in earth history global temperatures have dropped up to 120ºCelsius (210ºFahrenheit). That has resulted in around 40% of the surface of the Earth suffering a 100,000 year long big freeze. It is estimated that around twenty of so of these events has occurred over the last 2.5 million years and the ice sheet covered as much as 42 million square kilometres around 11,000 years ago, at the time of the last Ice Age.

However, it now covers around 15 million square kilometres (6 million square miles) most of which lies in Antarctica, around less than 12 million square kilometres (5 million square miles) and around 6 million kilometres (2 million square miles) in Greenland and the North Polar region. There is no consensus how the laying down of these enormous ice fields may have occurred, but current theories include climate modelling solutions where increased volcanic activity may have produced enormous dust blankets around the Earth thereby blocking out sunlight, or the possible fluctuation in the Earth's output of radiant energy caused by variations in the decay of radioactive elements, and also the earlier 1920s 'Milankovich' theory (after scientist Miluti Milankovich) whom postulated the idea that such events may have been caused by long term variations in the Earth's orbit and therefore distance from the Sun.

As everyone knows, the Earth has one moon and it is fifth largest in size out of the sixty or so satellites in the Solar System being 3,476 kilometres in diameter (2,160 miles) inferior in size to three of Jupiter's moons, Ganymede at 5,262 kilometres diameter (3,270 miles), Io at 3,630 kilometres diameter (2,256 miles), Europa at 3,138 kilometres diameter (1,950 miles) and also to Saturn's moon Titan at 5,150 kilometres in diameter (3,200 miles).

Our moon appears to show the same face towards Earth because of its equal rotation and revolution that is 27.32 days. Temperatures on the surface are typically 134º Celsius (273º Fahrenheit) on the sunlit side at noon and -153º Celsius (-243º Fahrenheit) during the darkness of the two week long lunar night.

The moon seems to be an 'inside out' world and although many moon rocks are similar to Earth's igneous rocks many moon rocks have high percentages of titanium and low percentages of iron. That has led to the suggestion that the moon could be mined for its titanium - scarce on Earth. It is an active world and tremors occur constantly, presumably by magnetic tidal forces from the Earth, and are recorded by the seismic instruments left on the moon by past lunar missions. The moon has no atmosphere as such but is thought to have a thin layer of solar wind particles forming a thin layer over its crust. Without the gravitational effects caused by the proximity of the moon, the Earth would not have ocean tides or many of the tectonic events that continue to shape our world.

Some researchers and writers like Don Wilson [3] Secrets of Our Spaceship Moon go further than the known facts about our satellite. According to Wilson an engineering professor from the University of California named Dr James Harder had confronted NASA authorities with revelations he had gleaned from an analysis of Apollo spacecraft tapes of conversations between astronauts and Houston Space control Centre that showed that there had apparently been several UFO related incidents on many of the Apollo missions.

Professor Harder believes that Apollo 11 launched 16 July 1969, was followed halfway to the moon by a UFO. (Apollo 11 being the first manned landing on the moon - Neil Armstrong who first walked on the moon on 20 July 1969, other crew members being Michael Collins and Edwin 'Buzz' Aldrin Jnr.) On the Apollo 12 mission, another moon landing (launch date 14 November

1969 - Charles Conrad Jnr. - Richard F Gordon and Alan L Bean) it appears that a UFO trailed the lunar vehicle for three orbits. Harder comments that NASA privately admitted these facts but said they had suppressed them for fear of public panic. An un-named member of the Apollo 12 crew also confirmed that the mission had seen UFOs.

NASA had managed to pass off such events as having been due to space 'debris' co-incidental to the missions. However, the Apollo 8 Mission to orbit the moon (launched 21 December 1968 - Frank Borman, James A Lovell Jnr. and William A Anders) that preceded the actual Armstrong landing did provide some photographic proof that the objects seen were not debris but actual structured craft. Later, Borman and Lovell managed to take photographs of a bright shining UFO and another three glowing objects. It appears that NASA are only too well aware of what was going on at this stage of their exploration and issued a classified order (document KMI-8610.4) stating that astronauts should report sightings of objects not related to space vehicles (i.e., UFOs) as pieces of regular NASA spacecraft.

That our moon is a strange world is without question. Odd lights, flashes and peculiar transitory events have been recorded over a long period of time, not just by astronauts but also by astronomers over centuries. Even before the invention of the telescope many strange transient lights, flashes etc.... have been seen by observers. NASA carried out a serious study of some of these events prior to actual lunar missions.

The 'Chronological Catalogue of Reported Lunar Events' examined stationary and moving 'strange lights', 'glows' and 'happenings' on the surface of the seen moon and this seems to indicate that NASA was interested and cautious enough to conduct the study in the first place before embarking on an exploratory programme using unmanned and manned craft that would eventually culminate in a manned lunar landing.

Before we leave the moon it is worth mentioning the strange features known as 'obelisks' or 'spires'. The 1966 Soviet Luna 9 probe lander, which was the first spacecraft to soft land on moon, touched down on the dark Lunar Maria, called the 'Ocean of Storms'. It took some remarkable photographs of odd towering type structures that seemed to line up as though in deliberate fashion, rather than a random scattering, which would normally, be expected.

These structures looked they were lined up much in the same way our airport runways might appear from the air. The identical, circular features were said to reflect sunlight thereby making them highly visible from above the surface of the Moon. Soviet scientists had concluded from studying the photos that at least one spire structure was at least fifteen stories high! Dr S Ivanov, a winner of the Soviet Laureate State Prize, found that the distance between the structures was identical and that the spires themselves were also identical in measurement.

The Soviet findings were later consolidated by the USA's Orbiter 2 which took pictures on 20th November 1966 from twenty nine miles (over 46 kilometres) above the Sea of Tranquillity which would later be the site selected for the manned landing in 1969. The photos showed seven huge spire-like structures that US scientists estimated at around 40 to 75 feet high (25 to 46 metres tall). However, Soviet scientists held the view that the structures were at least as tall as a fifteen-story building.

Further examination of the seven structures, particularly with regard to their positioning, seemed to reveal that there was a geometrical arrangement that would have not occurred through accident. Whilst some scientists argued that it was 'a trick of the light' and that other rock arrangements on the moon could be interpreted in many ways, proponents and supporters of these artificial structures pointed out that the spires or obelisks were clearly much taller than the tallest buildings on Earth at the time and, somewhat pointedly, that they were of a much lighter colour than any of the surrounding objects and therefore must be made of different materials.

NASA did eventually release a photograph obtained from Orbiter 2 but denied it revealed anything of real significance. Whilst the media had a field day constructing all kinds of wild speculations, NASA remained firm. On the 20th July 1969 the Lunar Lander nicknamed the 'Eagle' touched down in the Sea Of Tranquillity...the same area where the spire structures were originally located. NASA would eventually put twelve men on the moon and by 1972 the Apollo programme would be over. However, experiments left on our satellite would continue to function for a long time. Even NASA scientists were amazed at the data gleaned from geological experiments with regard to the moon's geology. Computer modelling suggested that the moon behaves more like an enormous hollow titanium ball than a sterile dusty cratered rock.

Unfortunately, as with so many explorative efforts, it is not possible to make any qualitative judgements on the strength of data gleaned from a few short visits - much more on-site time is needed to fully understand our strange companion world. Don Wilson [3] points out that many intriguing questions remain largely unanswered such as; “Why does the moon seem to be around 7 billion years old?”

Whilst the Earth is known to be about 4.6 billion years old? (4.6 billion years old according to Radioactive Argon 40 analysis of lunar rock samples). Why is the moon's upper 8 miles surface so radioactive and loaded with elements that should not be there? Why does lunar soil appear to be a billion years older than moon rocks? The moon gives the appearance that it once must have been a hot body, and yet equally valid evidence contradicts the hot body theory?

In March 1996 The Daily Telegraph reported that water ice had been discovered on the moon’s North Pole and it was thought that as much as three hundred million tons was deposited there. This assessment was made from data sent back by NASA's Lunar Prospector probe. The UN's 'Office for Outer Space affairs' was quick to point out that just because the US probe discovered the ice, they do not own it. A Treaty signed by all UN members in 1966 (prior to the American 1969 lunar landing) states that no one nation could own the moon.

However, NASA was equally quick to point out that the presence of the ice would make the moon an ideal staging post (all other problems considered) for journeys to the outer planets because the moon could now supply, oxygen, water and rocket fuel. The UN concluded that as soon as the ice and other lunar resources can be exploited for commercial reasons, the Secretary General will convene a conference so that internationally interested parties can benefit from a regime that will ensure the quote, '...orderly and safe deployment of natural resources and their rational management...' It is envisaged that sharing of resources will not be equal, but will be based on a division of the spoils to those whom contribute most to the exploration of the moon - with special consideration to America.

We must now turn to some of the other bodies in our solar system. Astronomers estimate that there may be as many as 10,000 asteroids in the Solar System most of which are located between Mars and Jupiter. However, some have eccentric orbits and can come close to Earth orbit. Large asteroids are

known but some are too small to be seen by optical telescopes until they are close to our Earth. By that time it would be too late to do anything about it - even if we could.

NASA scientist Rich Terrile, who works at NASA's JPL Laboratory in California which analyses all the data coming from NASA's planetary probes, has advised that every day 20,000 tonnes of material from space falls to the Earth. Most of this material is in the form of space dust, which, is eventually carried down through the atmosphere by our weather systems, but around ten tonnes does not. That material hits the Earth as meteorites. It is only the vastness of space and our comparatively thin atmosphere which protects us from serious collisions.

There are a number of ECAs (Earth Crossing Asteroids) that are known. However, surprises do still occur occasionally. On 28th February 1998 at 09.50pm a large asteroid capable of wiping out the City of Manchester (UK) passed under three million miles of Earth at up to an estimated seventy times the speed of sound. In 1997 a fireball exploded over Greenland, luckily causing no damage. It is estimated that the probability of a 'civilisation destruction' event occurring is in the order of one event per 100,000 years - which one has to say is rather high risk. But not all scientists agree with that estimate.

It is said that an asteroid just 10 kilometres in size (just over 6 miles) impacting Earth with a force of millions of kilotons of explosive energy would be sufficient to wipe out all life. This might be so, if it impacted on a continent, at the right angle and if it caught us unawares. It is not generally known that astronomical bodies often fly close by to us with no effect. On 22nd March 1989 an asteroid designated as 1989FC came within 691,870 kilometres (430,000 miles) and asteroid 4179 Toutatis passed the Earth by 2.5 million kilometres (1.5 million miles) on 9th December 1992. More Earth crossing asteroids will follow, but in the meantime, perhaps we should worry more about our planet on a day to day basis.

The 29.5% of gradually depleting landmass of our Earth is home to most of the higher animals but the oceans provide the environment for almost as much diversification in form and purpose. It has been estimated that since life first blossomed on Earth more than 2 billion species have evolved but up to 99% that have ever lived have now become extinct. It is thought that around 5 to 30 billion different species now live on Earth. However, most species of types that

only number in the hundreds of thousands but insects still retain the greatest diversity. Life on Earth is carbon based and man for instance, consists mainly of Oxygen (63%), Carbon (19%), Hydrogen (9%), Nitrogen (5%), and surprisingly only 1.5% of Calcium considering that his skeletal structure forms such a prominent part of his body. Remaining constituents comprise of percentages lower than 1% and trace elements.

Man is complex and we still do not really know anything about how our brain works, how and why we function as we do, our consciousness, our spirituality, our artistic, creative processes and our intellect. It is thought that our probable maximum lifespan should be about 150 years (the oldest person on record was said to have lived to almost 121 - a Japanese man named Shigechiyo Izumi).

There is a theory that proposes the waste products of normal biological processes injure our healthy cells, eventually killing off essential cells in our organs and thereby hastening our end. Another theory suggests that we are programmed to age according to our individual genetic make-up and that cells only revitalise themselves a specific number of times. Yet another idea as to why we age and die is because Nature somehow decides that the old have to go in favour of the new to enrich and strengthen the human gene pool. Perhaps all of these theories are partially correct, but the rapid advances in gene technology may enable us to grow new organs from our own tissues so that when one wears out we simply replace it with a new one!

It has become fashionable to talk about global warming and the cause of it being man's greed. However, there is firm evidence to prove that levels of carbon dioxide (the primary 'greenhouse' gas) and other naturally occurring greenhouse gases have remained stable for the past several thousand years. Nevertheless, levels are increasing and have done so since the middle 16th Century when industrialisation took hold in the West. Whilst carbon dioxide is the main culprit through burning fossil fuels, methane features as well which comes from the increase in rice paddies and particularly grazing cattle. Nitrous oxides are also responsible from fertilizers and again from the burning of fossil fuels, chlorofluorocarbons (CFCs) and low-level ozone products from photo chemicals and motor vehicle exhausts, aircraft and ships even though vast improvements have been made in filtering out pollutants. Fossil fuelled power stations and factories also contribute to the overall effect. Pollution of the environment seems be an inevitability of human activity and the dichotomy of

growth and prosperity to attempts at reducing demand and population growth are as far apart as they ever were.

Some of these gases can be classed as air pollutants and might be thought to cause serious impact on our environment if left unchecked. However, it has been estimated that pollutants in our atmosphere have managed to change the composition of our air less than 0.01% but some scientists argue that even such a small change over a long period can have deleterious effects. Volcanoes play a major role of course and they produce prodigious amounts of greenhouse gases. An even bigger debate rages over the depletion of the ozone layer (ozonosphere). The ozone layer above Antarctica has a natural ozone 'hole' that expands and contracts quite naturally according to the seasons each year and was discovered during the International Geophysical year of 1957/58. Since 1979 measurements of the hole has shown that it has grown in size.

The consensus seems to be that whilst the hole is growing through naturally occurring events such as volcanic activity, man is helping it on its way by using chemicals that tend to attack it. Whilst the process is a straightforward chemical one, under the 1990 amendment to the so called, 'Montreal Agreement', 56 nations agreed to end CFC production by 2000 which has occurred. Unfortunately, chemicals already released into our atmosphere will remain there for many years to come.

The ozone crisis is a real one but there is no general agreement as to what a thinning of the layer will do to life. Some scientists believe that it will cause an increase in skin cancer and cataracts. Some believe that it will result in the loss on a large scale of delicate plankton animals and a gap in the food chain of the oceans having a knock-on effect on World oxygen supplies. The jury remains out.

According to accepted scientific beliefs, life on Earth first started around 3.5 plus billion years ago from what is called the 'Primordial Soup', a mixture of water, hydrogen, methane and ammonia under certain conditions of heat and with electrical discharges fired into the mixture, presumably through what must have been quite violent electrical storms on the early Earth. The product of this synthesis is supposed to have been a kind of blue-green algae, and from this it is said all life has evolved with all the diversities having common ancestral connections.

However, this theory is still hotly debated and modern adaptations (whilst in broad agreement with general evolutionary processes) has shown that occasionally evolutionary jumps seem to occur to species which leap frogs their progress over what would normally take them some considerable time to achieve if left alone. These jumps in evolutionary processes are usually as a result of outside influences causing new or novel adaptations to ensure the survival of a particular species if at all possible.

Sometimes spontaneous genetic modified individuals may occur within a species and that may open up the possibly of a new evolutionary branch prospering. There appears to have been more failures than successes but Nature tends to operate large-scale experiments to achieve sustainable success. However, one small-scale aspect that may influence the evolutionary behaviour of species concerns the ability to copy specific behaviour patterns. Animals may copy the behaviour of 'trend setters' within their species to gain some advantage that they could ordinarily not get. This implies intelligence at work which represents the most important evolutionary aspect over anything else.

Since life first appeared on Earth there have been numerous extinctions of species. Fossil records prove that. Around 250 million years ago (the Permian Period) it has been estimated that almost 96% of all marine life was wiped out. A more famous and, in geological terms, recent mass extinction occurred around 65 million years ago (the Cretaceous Period) when almost 50% of life on Earth perished, including the dinosaurs. Debate still rages as to why these extinctions have occurred and suggestions include unprecedented volcanic activity, to asteroid attack. Both extremely violent events, but more thoughtful and novel theories exist.

Two scientists from the Californian Institute of Technology, Erik Leitch and Gautam Vasisht theorise that past Earth extinctions may have occurred because of our Solar System's natural progression through our Milky Way. By plotting the path of the Solar System back in time, they found that when the largest of the mass extinctions occurred around 250 million years ago, the Solar System was in the middle of the next spiral arm of the Galaxy as Earth slowly rotates in a locked gravitational embrace. As massive stars live out their short existence to finally become supernova in these spiral arms, Earth could take a lot of radiation damage from these objects.

Massive incoming radiation would strip off the Earth's ozone layer making all life vulnerable to the Sun's deadly ultraviolet emissions. But life would also be hit with enormous amounts of cosmic rays that would cause genetic chaos. Leitch calculates that our chance of encountering a supernova close enough to do damage to the Earth is about 50:50. He concludes by stating that whilst we could not do much about it we might be able to *shield ourselves or build underground cities* (author's emphasis: could Martians have survived in this way following an ancient supernova event)?

The general march of evolution tends to focus on the complex. That is to say, if life is left to its own devices it will form greater and greater complexity until an evolutionary accident occurs and the process is either reversed or halted. As a result of complexity humans now occupy the peak of Nature's complexity pyramid on the planet. Whether this should be some cause for concern or celebration is not clear cut but we should not celebrate too quickly as scientists predict the Earth is overdue for a large scale natural disaster, or a regular cyclical Earth event which may have cataclysmic results for us as a species.

It has been estimated that every 10 million years or so a 5 kilometre (approximately 3 miles) astronomical body will impact on Earth causing catastrophic damage and cause mass extinctions. Every 100 million years a 10 kilometre astronomical body will hit the Earth causing the obliteration of most living species - but worse still, every billion years or so a body of the size of the 50 kilometre (approximately 31 miles) Hale-Bopp comet will hit Earth - perhaps in such a catastrophic way that life could not make a comeback!

Life therefore, is very transient and fragile. It is also opportunistic and will establish itself wherever and whenever it can, even though its tenure may be short or hardly worthwhile, and it takes time…a lot of time. Established, complicated life seems to be more of a consequence that a necessity and in many ways has the tenacity more associated with the behaviour of micro- organisms, i.e., bacteria which, is not surprising as these organisms were the first types of life that came from the first chemical nurseries. The fact that they still prosper lends virtue to the success of their simple needs for the necessities of life.

This short science lesson has been to provide the reader with some idea of how important our Earth is in the Solar System of planets and to illustrate how fragile life really is in the general scheme of things. The list of facts, views and

statistics are, of course, endless and would make boring reading on their own. But they are the facts of our small planet and its place in space and time. It is entirely probable that life in all its forms may only exist for a fraction in celestial space-time, intelligent life even less so. Maybe that is why the visitors find us so compelling...so irresistible. If intelligent life is as rare as is thought, we must share a kind of kindred association with these intelligent entities. It is possible that we may not be able to appreciate that contact until we have emotionally and intellectually evolved to a greater degree.

Since 1931 when Guglielmo Marconi, an Italian electrical engineer perfected his transatlantic radio, whilst Nikola Tesla was exploring his dream of free electrical energy for all, radio frequency waves have poured out from our planet into space. The broadcasting boom started worldwide in about 1922, when broadcasting radio stations services took off in the UK, France and the Soviet Union.

There was no stopping technology. High frequency energy in the form of radar, television and satellite communications would eventually continually stream out into space. Atmospheric nuclear detonations caused large amounts of electromagnetic energy to be set free and this too radiated into space. The legacy of these nuclear tests would serve to raise the natural background radiation all over the globe. So much so that it would become almost impossible to find non-radioactive steel for scientific purposes anywhere in the World. The only source of non-irradiated steel coming from the hulks of WW1 German battleships scuttled at Scapa Flow, Scotland.

If aliens had been listening to this electromagnetic noise, they almost certainly would have come to see what was going on. It must have also given them the unmistakable message that we had achieved at least a certain level of development in controlling and manipulating Nature for our benefit. It may have also filled them with dread that if left un-checked we could manage to wipe ourselves out more through accident than by design.

In 1960 astronomer Frank Drake, who is the undisputed father of SETI (Search for Extra-terrestrial Intelligence), sent out radio signals to Epsilon Eridani and Tau Ceti using the largest steer able radio telescope in the World at Greenbank, West Virginia, USA. He hoped that intelligent life would respond at some time in the distant future - these star systems were many light years distant. Drake developed an equation that might predict the spread of life across

our Universe and he based it on a number of variable features which included, the rate of star formation in a galaxy, stellar death, how some stars make planets whilst others do not, planets at the correct distance from their star and stars in the right bracket i.e., so called 'main sequence' stars like our Sun.

In 1964 Dr Stephen Dole (formerly of the Rand Corporation of America) published a Report titled, 'Habitable Planets for Man'. Using the Drake equation he concluded that there was possibly some 600 million 'earth like' planets in our galaxy that was of course, quite exciting for those scientists who thought that Earth type planets were far more common than had been previously thought.

However, a 1984 study by Donaldson, an Australian astrophysicist titled, 'The Galaxy Before Man' used more up to date criteria i.e., how stellar composition varies with age and location within the galaxy. He concluded that 'earth type' planets would be extant in the order of 0.002% of all stars. It is strange that he comments Mars type planets would be quote, '...as grains of sand scattered in the cosmic night....' end quote.

That the planet Mars holds special fascination and allure to us is probably no accident. There is a large body of evidence, some of which is highly controversial, which may yet prove an evolutionary connection between this strange rust coloured world and ours. Is it possible that our visitors also have hidden knowledge of Mars? Was Mars once home to teeming intelligent life at a time when Earth was still hot, fuming, and not yet fit for life? We shall see more revealing and exciting aspects of Mars later.

Chapter Two

The Song of Ages

Mars has special interest for us. The Dutch physicist and astronomer Christian Huygens first saw the surface features of Mars in 1659 but ever since the Italian astronomer Giovanni Virginio Schiaparelli referred to the lines that criss-crossed the Martian surface as canali in 1877 (meaning 'channels') and the subsequent popular mistake of transforming the literal translation into 'canal', people thought that the Martians had somehow cut huge waterways all over their world to irrigate it. Even Schiaparelli thought that the canali might be as the result of Martian activity. The scale and complexity of such an operation did not dissuade popular opinion until better science emerged and we had to wait for instrument probes to send us back detailed features of the surface.

As American astronomer Percival Lowell developed his theories concerning life on Mars in the early part of the twentieth century, we continued to hold a fascination for this small red rusty coloured planet with its seasonally changing ice caps and its odd canal like structures etched into its surface. If ever there were another planet in the Solar System other than Earth that could harbour life it would be Mars. Venus was still a mysterious planet shrouded in impenetrable cloud cover.

For some, Mars would be the most likely place the visitors could make habitable (given their advanced technology) or perhaps it was even their home planet? The various strange anomalous lights, flares and sometimes odd traversing objects across its face heightened speculation. Mars is 227.9 million kilometres (141.5 million miles) from the Sun. Earth is a mean 149.5 million kilometres (92.9 million miles) distance from the Sun. Mars is only 6,787 kilometres in diameter at the equator (4,217 miles) compared to our Earth's equatorial diameter of 12,756 kilometres (7,926 miles) so Mars is a relatively small world when compared to Earth.

Mars has two small satellites, Phobos and Deimos, both of which were discovered in 1877. They are both irregularly shaped being 27 by 19 kilometres (17 by 12 miles) and 15 by 11 kilometres (9 by 7 miles) respectively. Phobos, the larger of the two satellites, has an unusual orbit that appears to violate the laws of astrophysics. It orbits Mars faster than the planet revolves on its axis

and was somewhat fancifully thought to be an artificial structure in which the Martians had made home when their planet became uninhabitable. But it is now accepted that both satellites have been captured by Martian gravity from the asteroid belt between Mars and Jupiter. Phobos has been found to be spiralling down to Mars because of its unstable orbit and will eventually smash into the Martian surface.

NASA is particularly interested in Mars and has sent fifteen probes to survey the planet since the earliest launch date of 1964. All but five of these probes have failed to complete the mission objective to make a soft landing and take readings and samples. However, some probes, notably the very successful Viking 1 and 2 programmes that touched down on Mars in January 2004 did function productively for some time sending back some remarkable scenes of utter desolation, a bright red rock desert landscape strewn with both small rocks and enormous boulders. But some orbital Viking pictures showed some tantalising evidence of structures and what appeared to be organised industrial complexes. Unfortunately, the images were very small and of low resolution and not all have been released to the public domain.

Later, the Mars Global Surveyor probe would reach Mars in 1998 and send back striking never before seen high-resolution pictures of the Martian surface. Pictures which would revive the theory that Mars once had vast areas of water on its surface as well as much volcanic activity in its past. However, these pictures of the Martian surface would reveal much more than unusual geological features...even as exciting as they were.

NASA has not given up on Mars and launched another two probes, ‘Deep Space 1’ and ‘Deep Space 2’ on missions to the red planet and the asteroid belt. These ‘Deep Space’ probes used many new technologies which include an Ion Drive engine (see Notes) which gives sustained (but weak) acceleration over long periods, with intelligent on-board computer systems that can function autonomously within permitted mission objectives (a spin off from military surveillance drone technology), ‘Deep Space 1’ was due to rendezvous with asteroid 1992KD in July 1999 and map the orbits of some 250 asteroids in an attempt to understand any potential risk to Earth from collisions with one of these rogue astronomical bodies.

Deep Space 2 was due to orbit Mars at around the dawn of the new millennium and eject two landing experiments in the polar ice caps designed to

drill into the soil in an attempt to search for evidence of , ‘volatiles and climate history’ and to establish whether life ever existed on the planet (see photos section). Unfortunately, the probe was lost in its descent to a landing area near the Martian South Polar region on the 3rd December 1999 for unknown reasons. Another probe, the Mars Climate Orbiter, was also lost in September of the same year as it went into orbit around the red planet – NASA’s luck had clearly run out for 1999. During 2001 and 2005, four more Martian landers were to be launched. In the same period, 'TransHab' a manned lander was to be assembled at the International Space Station and tested for a three-year return trip to Mars. Up to six astronauts could be accommodated in this module and it was envisaged that a number of support systems landers will be sent to Mars in advance of the manned mission so as to provision for a six hundred day mission.

It was hoped that the first men to visit Mars would arrive in 2010. That ambition never happened due to funding problems and the economic climate of the time. However, the very successful Mars Exploration Rovers, ‘Spirit’ and ‘Opportunity’ that touched down on the Martian surface in January 2004 have sent back some striking images of Mars. The successful Spirit and Opportunity rovers have paved the way for manned mission to Mars in the early part of the Twenty-first century. However, the prospect of a manned mission to Mars unfortunately remains in the future.

In his book, [2] 'The Monuments of Mars: A City on the edge of Forever' Richard Hoagland (US researcher and science writer) comments that in some of the photos strange structures are seen. On orbit number 35 Viking 1 takes the probe over an area called Cydonia which lies at about 410 above the Martian equator in the Northern hemisphere of the planet. From a thousand miles up Viking's high resolution camera manages to take clear pictures safe from the violent dust storms that occasionally rage across the Martian surface.

On orbit 35 a strange face like feature appears on the photo. Optical measurements indicate that this 'face' is about 1.6 kilometres long (1 mile). Just over 16 kilometres (10 miles) from the 'face' Viking found an immense structure looking like an enormous pyramid. From photo analysis it seemed to have four buttressed sides and scientists originally thought that the appearance of this object was as a result of the fierce winds carving patterns on natural features.

Based on simple calculations, it seemed the pyramid was about 0.8 kilometres high (0.5 mile), 1.6 kilometres long on its shortest side (1 mile) and about 2.5 kilometres long (1.6 miles) on its longest side. It has a cubic 1.6 kilometres (1 mile) of Martian soil piled up at a 30^{o}angle to the surface. The second Cydonia pyramid is located at Lat.35^{o}, Long.13.9^{o}. It is roughly square at its base, is pentagonal and has an almost North/South alignment to the planet. The base of the East side is approximately 3.8 kilometres long (2.4 miles) with the South side about the same. The West side seems to be 3.1 kilometres long (1.9 miles) and the North side 2.7 kilometres long (1.7 miles). Based on shadow analysis the height of the structure (if it is an artificial structure) is around 800 metres (over 2,194 feet) based on a Sun angle of around 70^{o} from the vertical. Each corner appears to be heavily buttressed, as an original design feature or as an addition.

This, so called D&M pyramid, (named after Vincent DiPietro and colleague Gregory Molenaar who were the first to discover it from photo analysis), originally thought that the structure only had four sides due to extensive damage to one of the sides. However, in [5] 'The Mars Mystery - A Tale of the End of Two Worlds' Graham Hancock and his associates advise that detailed photographic analysis using photo clinometric methods reveals that the 'damage' may in fact be a tunnel and not as previously thought, a crater hole as a result of meteoric impact. That would mean the enormous pyramid is a hollow structure, and therefore must be artificial. These are by no means the only artificial looking structures on the Martian surface and many other pyramids apparently damaged by impact - or possibly by some kind of local explosion - are scattered in this particular region.

Another, so-called, 'crater pyramid' is a four-sided object and is oriented on the South East rim of an impact crater some 3.3 kilometres (over 2 miles) by 4.1 kilometres (almost 2.6 miles) in size. Using photogrammetry it has been found that an adjacent crater is some 75 metres in depth (around 246 feet). Interestingly, near this crater features described as 'worm-holes' have been noted. They are about 250 metres in diameter (around 685 feet). Hoagland postulates that this pyramid was built after the crater. Hoagland has calculated that the crater must have been the result of a meteor hitting the surface with an impact in the range of hundreds of megatons.

Around twenty anomalous objects were found when the Viking photos were analysed. Scattered almost halfway across the planet they are still the subjects

of much debate. However, Hoagland points out that NASA's 1992 'Observer' mission carried no on-board video camera on its Mars Orbiter as NASA concluded that they already possessed enough pictures of the planet's surface features (?)

Hoagland was dismayed to find that the project was equipped with infrared geochemical scanners, radar altimeters and mappers that could provide much data to be assembled into 'false colour' infrared images. He commented that the smallest images that could be seen would be about a mile in length (1.6 kilometres) and therefore, the Martian 'face' would only be about one pixel in size…much too small for any detailed study. Hoagland comments that whilst the Viking programme cost about a billion US$ and the Mars Observer mission around US$ 150 million a 'Malin' one metre resolution camera could have been added to the project for a mere additional US$ 5 million.

This was not the first time that anomalous objects were seen by Martian probes. In 1972 NASA's Mariner 9 had mapped strange objects in what was called 'The Elysium Quadrangle' where triangular and pyramidal type topographical features were picked up by Mariner's cameras as it orbited high above the Martian surface. Unlike its predecessor's - Mariner 4 launched 28 November 1964, Mariner 6 launched 25 February 1969, and Mariner 7 launched 27 March 1969 - Mariner 9 harvested a number of photographs showing strange pyramidal looking features apparently arranged into artificial alignment which gave cause for celebrated astronomer, [7] Carl Sagan to comment, "*The largest are three kilometres across at the base and one kilometre high - much larger than the pyramids of Sumer, Egypt or Mexico on Earth. They seem to be eroded and ancient and are, perhaps, only small mountains, sandblasted for ages. But they warrant, I think, a careful look".*

However, the general consensus on the success of Mariner 9 was not that it had discovered anomalous objects on the Martian surface, but that the planet's geomorphology had indicated that Mars must have once been a water planet similar to Earth now. That provided the real impetus to send further probes to establish whether any form of life could still exist on this dry, stricken world.

Unfortunately, the equally interested Soviets did not have much luck with their Mars probes; Mars 2, Mars 3, Mars 5, Mars 6 and Mars 7, through 1971 and 1973 failed their mission objectives. Therefore they could not provide any new data or add to existing American findings.

Is it too unreasonable to assume that scientists may have already concluded that even if intelligent life had existed to build pyramids on Mars, they were now long extinct and therefore beyond any help? The mission would now be to establish whether or not rudimentary life still has a foothold and whether or not mankind had any chance of surviving on Mars in very practical terms for long mission periods. Dusty monuments and archaeology could wait – but they would not go away.

As to why anyone would want to build an enormous face pointing out to space is not known. However the pyramids and so-called 'Martian Citadel' mentioned by Hoagland in his book are more understandable to us. If they are artificial structures of great antiquity it means that we have *never* been alone. As to how they were built, we can only guess. But, as Mars currently only has about 38% of Earth's gravity things may have been different in the geological history of the Red planet. Meantime...NASA has released photographic proof that the face on Mars is really just a trick of light falling on the contours of a naturally eroded geological object.

Mars seems to be two separate planets. One side has large numbers of craters and the other side boasts the largest volcano found in our Solar System. It measures over 27 kilometres high (16 miles) and over 500 kilometres across (300 miles). It seems that the eruptive phase of this volcano aptly called 'Olympus Mons' was only about 100 million years ago. When compared to the overall age of the Solar System of around 4.5 billion years that is a very short time ago.

Instruments have shown Mars has an atmosphere almost totally comprised of carbon dioxide (93%). With only a thin atmosphere to shield it from deadly ultra violet rays, and temperatures which are said to fluctuate from about 100 Celsius at noon (212 Fahrenheit) to -93 Celsius (-200 Fahrenheit) carbon based life would find it very hard to get a foothold without some dramatic adaptation. With an atmospheric pressure of less than 1% of Earth's and an atmosphere largely comprised of carbon dioxide, (frozen carbon dioxide at the North and South polar regions) traces of nitrogen, argon, oxygen and water ice life could have a difficult time. However, if that is on the surface of Mars, not much is known about what lies under its surface. It is now been discovered that water ice exists on the surface as well as beneath the surface. It also has 'dust devils' as we have on Earth and misty white clouds.

Away from the equator the maximum daytime temperature only reaches about –30º Celsius but on the equator the temperature can rise to as much as 22º Celsius. Night temperatures may be as low as – 100º Celsius even in warm spots due to the poor insulating effect of the thin Martian atmosphere. Instruments have recorded temperatures as low as – 133º Celsius at the South Pole when it is winter. To make matters worse for any surface life, temperatures can also fluctuate wildly, even in the same locality. The Martian South Pole in a summer (when on closest approach to the Sun) makes the southern hemisphere much hotter than the northern hemisphere and temperatures can rise to about 27º Celsius. These variations in temperature gives rise to vast dust storms that may rage across Mars for weeks or even months. As we shall see later, adaptation to such harsh conditions must have occurred by Martian plants and residents.

However, there is emerging evidence that it was not always so on Mars and some scientists are now re-considering the old idea of 'Panspermia' and that life may have started on a Mars much different to that which we see today and spread to Earth aeons ago. Recent studies [34] of the Martian meteorite code named ALH 84001 indicate that its interior did not get heated to any more than 40º Celsius (104º Fahrenheit) on its epic journey to Earth.

By implication, that means any bacteria locked inside the meteorite could have survived the massive shock of such a trip without being killed by extremes of temperatures. Interestingly, it is also suggested that some rocks from Earth may have found their way to Mars in a similar fashion.

In this way, it can easily be envisioned that the seeds of basic life from different worlds may be continually circulating not only within our own Solar System in a chance search for somewhere where it can gain a toe hold and blossom, but this basic, simple life could also be travelling in the vast uncharted expanses of the Universe slumbering in hibernation on an uncertain journey through space and time, blindly searching for a suitable, permanent home to seed.

If life first originated on Mars it may have been brutality snuffed out by a meteoric bombardment that scoured over half its surface, disrupted its geodynamic effect resulting in a loss of its atmosphere and its oceans – a vision of Hell indeed. If the Panspermia theory holds, it may well be that we owe our existence to the destruction of the original life on Mars in more ways than one.

However the current Martian owners or lessees may have a view about welcoming their Earthly neighbours to their home.

The similarity of the pyramid type buildings on Mars and those of Earth cannot have escaped attention. Whether there is any connection between the Earth and Mars pyramids is pure speculation at this time despite the ample photographic evidence released by NASA and in particular, the work done by independent researchers. The Martian pyramidal structures will remain speculative and un-proven until humankind can inspect these strange features first hand, or more conclusive evidence comes to light.

It may not necessarily mean that there is a connection with Earth's pyramids even if the Martian structures are artificial - and I must say they look artificial - but that the pyramid is a structure which could be arrived at as a building form anywhere, if you had the motivation, intelligence and resource to build it. You must also have a need or desire of course and as we are still unsure as to why the South American and Egyptian pyramids were built, we can hardly start asking ourselves why the Cydonia pyramids were constructed!

According to computer analysis, the Martian 'pyramids' are enormous to say the least and it is worth I think to compare the approximated size of just one of these objects to the Great Pyramid (Cheops) at Giza. The so called, 'Second' Cydonia pyramid has a North side of some 2,700 metres (8,858 feet) an East side of 3,800 metres (12,468 feet) a South side of 3,800 metres (12,468 feet) a West side of 3,100 metres (10,171 feet) and height of 800 metres (2,625 feet).

The Cheops pyramid on the Giza plateau in Egypt is almost perfectly square at its base and measures approximately 230 metres on each side (755 feet) and is some 152 metres in height (500 feet). It is estimated to contain 2.3 million blocks of stone with tens of thousands of those blocks weighing more than 15 tonnes or more. There are even some elevated blocks of stone weighing in excess of 100 tonnes and there are many blocks weighing 50 to 75 tonnes placed in what is thought to be impossible positions.

The Cheops pyramid is thought to have been clad originally in highly mirror polished cladding casing stones, which have been estimated to be around 115,000 in number, each weighing in a 10 tonnes covering an area of some 22 acres (89,034 square metres). Some scholars believe that the apex of the pyramid was covered in beaten gold cladding when it was first built. When compared to this one Cydonia pyramid, the Cheops pyramid would be

completely dwarfed! Its height would only be 19% of the 'second' pyramid at Cydonia, its north, east, west and south sides would be 8.5% - 6.1% - 7.4% and 6.1% respectively. If these strange features on Mars are pyramids and therefore artificial, it is very difficult to imagine how such enormous structures could be built...even with modern technology at our disposal we still cannot duplicate the Cheops pyramid.

The pyramid shape is a very stable and resistant structure if you intend to live above ground level in a potentially hostile environment, particularly so if you intend to ride out a potentially catastrophic event, perhaps such as a sustained meteor shower, which may have been the fate of Mars. However, no pyramid would be able to resist even moderately sized cosmic missiles travelling at anything from forty to eighty miles per second (around 64 to 128 kilometres a second). Under such circumstances the outcome would be predictable.

Clearly, something dreadful beyond our experience happened on Mars which scoured one side of the planet, may have destroyed its atmosphere, upset its gravitational alignment and exterminated all life by awakening or causing the genesis of the monstrous volcano called ‘Olympus Mons’.

If that life could build pyramids, they were undoubtedly intelligent. They may have been at the peak of their civilisation when our Earth was still too hot to harbour life. Could they have gazed at Earth's dazzling white appearance and wondered what kind of world Earth was? Were they unable to leave their home? Or could they explore and escape before the terrible catastrophe hit them? Is it possible that some of our visitors are related to the original Martians when Mars was the only planet in the Solar System able to support life?

It is quite likely that when man lands on Mars and starts exploration he will find that he is not alone and that we share a common, forgotten history with this poor sad, battered planet. If humankind can summon up the courage to explore Cydonia we may find that the greater part of the solution to our UFO problem might be explained - that is, *if we are allowed to set foot on Mars.*

As you might expect, many rumours have been circulated about conspiratorial attempts to hide the truth about the Martian 'pyramids', 'face' and other apparent artificial structures photographed by NASA probes. There are some in the USA who believe that NASA aborted the August 1993 arrival of the

Mars Observer probe mission rather than be pressured to take more photographs of the Cydonia region by a curious public.

However, that theory does not really hold up because NASA would hardly be likely to shelve a multi-million dollar project on such a shaky proposition. Also, NASA would hardly follow up one very expensive failed mission with another very expensive attempt in 1998 using the Mars Global Surveyor probe would they?

Another somewhat fanciful theory purports that the NASA mission was not aborted after all but was continued surreptitiously by the highly secret US Government agency, the National Reconnaissance Office (NRO) who marginalized NASA and effectively took over the project. Whilst there is no *actual* proof that NASA may have acted improperly, it has been said there is some evidence to suggest that NASA employees have in the past been instructed in the methodologies required to circumvent the FOIA (Freedom of Information Act) to avoid public embarrassment or the possibility of leaking potentially useful military assets by accident. It would, of course, be naive to think otherwise in the world of 'real politics'.

The recent success of NASA's Mars Rover 'Spirit' and latterly 'Opportunity' in 2004 has extended our knowledge of the Martian surface geology as well as providing the data which will substantially prove that at least microscopic life once existed – or still exists – in Martian sediments. However, conclusions should not be made in haste as it should be remembered that an equivalent alien probe landing in California's Death Valley in August would relay information back to those monitoring the probe that life could hardly prosper in daytime temperatures of around 115ºF. The same might be said of an alien probe trundling around the Earth's North or South poles – at the opposite end of the temperature spectrum.

However, NASA should be applauded for successfully landing two roving labs on the Martian surface, even though there may have been more interesting places to visit other than moderately boulder strewn 'lake beds'. It is a pity that the British, 'Beagle 2' attempt did not achieved its mission objectives as it seems to have fallen foul of similar problems experienced by prospective landers in the past but, compensation for the Beagle 2 failure is being made by the excellent high resolution pictures from the Mars Express Orbiter sent back to Earth. There is no doubt that these recent robotic missions will pave the way for

the human exploration of Mars. Only then we will understand Mars and its secrets.

While the NASA Mars Opportunity and Spirit rovers continued their mission to explore the surface features of where they were set down, the Mars Global Surveyor Malin Space Camera has sent back some outstanding pictures of the Martian landscape over a number of years stretching from 1997 to date as an ongoing mapping project. The images amount to over 196,000 to date and are produced in narrow angle and wide format. With a resolution of around 12 metres per pixel images can be tantalising as many reveal what appear to be strange looking 'industrial' type structures, gigantic 'vegetation', homesteads, ancient archaeological ruins and evidence of large scale mining. These images are not hidden and they exist for anyone who cares to look. I have included a selection of them in this book in Chapter Twelve and you can make up your own mind about what I believe to be conclusive photographic evidence that life *does* exist on Mars…*intelligent life* as well as many other life forms. There is now a great deal of photographic evidence which suggests that our Solar System may not be as devoid of life as we thought. Some Titan images (the Saturn satellite) have also revealed many strange features that may not be entirely natural and we await feedback from other probe missions such as the New Horizons mission to Pluto in 2015.

The Mars Reconnaissance Orbiter provided even greater clarity of the Martian surface when it sent back images orbiting from under 300 miles from the Martian surface in November 2006. Its high resolution stereo camera is capable of resolving objects down to 10 metres per pixel at 250 km altitude whilst the SRC (Super Resolution Camera) has a 2.3 metre per pixel resolution at the same altitude. That means the instrument is capable of detailed imaging comparable to spotting a dinner table from 250 km altitude!

Chapter Three

Aerial Technology

There is a saying that there is nothing new under the sun. As far as aviation technology is concerned that statement is a long way from the truth. It was estimated that by the year 2010, Globalisation will have reached a stage where there will be passenger-carrying aircraft designed to accommodate a thousand people [4], complete with gymnasiums and even jogging tracks on board! We shall probably have to wait a little longer for that due to the recent World recession. The same estimates concerning the future of commercial air travel forecasted there would be near-earth space tours for rich tourists by 2015. The cost of a few brief weightless hours in space may be in the order of tens of thousands of dollars, but there are already many people queuing up for these trips which may even include recreational weightless novelty sports as part of the overall package.

It may also be possible that low gravity sanatoriums may permanently exist in low-earth orbits where sick individuals can go to experience cures that cannot be had on Earth. New medications and procedures may be formulated in orbiting space laboratories that may benefit all mankind. Someday, in the not too distant future there will be people being born in space stations living, working, and dying without ever setting foot on their home planet. That must be a precursor to man's eventual first tentative steps into the vast unknown of our Universe. If no accidents occur to humankind in the interim and our visitors do not interfere, this is undoubtedly the route some of us will take. However, we need to take several steps back from these dreams to put all of that into perspective - but there have been clues to what the future might look like in the past. There is evidence to suggest that the object which crashed near Roswell, New Mexico on 4 July 1947 was the inspiration for several design studies by both Northrop and the Lockheed Aircraft Companies.

William McDonald, a private investigator and forensic artist based in California, writing for MUFON confirmed that both Jack Northrop and Kelly Johnson (founders of Northrop and Lockheed respectively) were given all the intimate details of the downed alien craft by the Wright Patterson Working Group during the period 1947 to 1952.

It was said that much of the stealth programme over the last thirty years emanated from what had been learned from detailed examination of the alien vehicle. Many designs including the Lockheed/NASA joint space shuttle project Venture Star Mach 13+ re-usable single-stage-to-orbit vehicle are said to have been inspired and adapted from the alien Roswell craft through reverse engineering the alien technology. McDonald's witnesses had both worked on the F117 Stealth plane and whilst they are both retired now remember the fact that Ben Rich, one time Chief Officer of Lockheed's 'Skunk Works' was fully aware of what was going on. Unfortunately, Ben Rich died of cancer in 1995.

Before Ben Rich died, he is said to have wrote (in personal correspondence) that the US Government were well aware that there were two types of UFOs, the ones built on Earth, and the ones *they* built! Kelly Johnson, successor to Ben Rich was said to have inherited all the information together with the necessary security clearances so the chain of information and knowledge would not be broken.

Another of McDonald's witnesses was to come forward saying that he had known Kelly Johnson many years ago and had on one occasion, when he had visited Johnson in his office, seen a detailed drawing of a delta shaped aero form with a front canopy, two fins at the trailing edge of the delta plan form which were markedly canted in towards the fuselage. The design was very unusual inasmuch there was no provision for any power plant - at least any known power plant. Johnson told his friend not to look at the drawing, as it was an experimental design for the 'next century'…the year was 1954.

In 1997 Philip J Corso published, [1] The Day after Roswell. McDonald found that Corso's description of the alien craft's interior matched his Wright Patterson witness account in some detail. This corroboration, coupled with other matching factors uncovered by McDonald must indicate there is a cover-up of grand proportions at the highest levels of both the US Government and some of the foremost technology developers/applicators in the World - one way or the other. This cover-up is as strong today as it was in 1947.

However, there is little evidence to suggest we owe as much as it is claimed to so-called 'reverse engineering'. It should be remembered that a very effective secrecy cloak could be thrown over quite legitimate ultra secret or sensitive projects by using the blanket excuse...'alien activity'...to an already conditioned and gullible public. The same applied to nosey researchers who got similar

treatment to throw them off the scent. It seems quite extraordinary that Northrop or Lockheed would have such valuable data all to themselves in order to develop their commercial activities at the expense of their competitors. That said it is significant that both the Northrop and Lockheed majors jointly provide the US Government procurement Officers with the new aviation technologies required at the forefront of US Defence industry stealth programmes.

Several unexplained and puzzling aspects remain about the Roswell craft. The fact that it is so obviously designed to be aerodynamic where most other, if not all, alleged alien craft have no need of aerodynamic principles to sustain flight is, frankly suspicious. The reported 'fish scale' appearance of the underside of the craft, similar to what you might expect of a re-entry ablative heat shield (very similar to the Space Shuttle tile system) has been passed off as some kind of radar defeating purpose, *not* as a re-entry heat shield. In his book 'The Day After Roswell' [1] Corso appears to identify fibre-optic cabling as part of the cache recovered from the crashed alien vehicle that he says he saw in his Pentagon Office, presumably in 1961 or around that date. His description of '...tiny, clear, single filament, flexible glasslike wires...' is unambiguous.

The first recorded use of fibre optics occurred in 1977 when it was tested in telephone systems. However, it is not unreasonable to think that scientists working on the wave/particle duality of matter and more particularly the nature of light perhaps prior to 1915 when Sir William Henry Bragg and his son Sir William Lawrence Bragg won the Nobel Peace Prize for their work on the analysis of crystal structures by means of X-rays, certainly theorised about the potential for fibre optics - even if fibre optic driving systems of lasers and light emitting diodes had not yet been invented.

It is also reasonable to think that the out pouring of new ideas as the inevitable result of WW2 might have burgeoned many ideas, and artefacts well before their time. It is a known fact that the Nazis had funded many technologically advanced programmes during the 1930s and throughout the war years. These programmes included circular plan form aircraft amongst other exotic and imaginative projects – as well as working designs for flying wing aircraft.

In 1947 captured Nazi science projects had already been seized and shared between the victors, on the basis of which nation could steal the fastest, and it could have been that captured hardware or blueprints may have been used by the

Pentagon for testing an advanced aircraft so as to secure military post war superiority over the Soviets. The apparent absence of any power plant in the Roswell vehicle is not a problem in itself as it may have been released at high altitude from the belly of a B-29 bomber.

It should be remembered that on the 14th October 1947 Charles 'Chuck' Yeager piloted the rocket powered Bell X-1 research aircraft to history from the underbelly of a B-29 when he exceeded the speed of sound over the Muroc desert. Even as early as September 1946 B29 bombers regularly dropped the Bell X-1 for gliding tests with Chalmers 'Slick' Goodlin at the controls. Perhaps the Roswell craft was a covert Pentagon funded 'black project' that had somehow got out of control?

There is still the question concerning the existence of the so called 'EBE's (Extra-terrestrial Biological Entities) allegedly recovered from the purported crash site. Is it unrealistic to consider that the EBE story was deliberately fabricated by the Pentagon to hide the real truth of a covert black budget project? Another somewhat wilder speculation is that EBEs were involved - US Government EBEs - working alongside US scientists and assisting in advanced aerospace development using all the technologies made available to their human counterparts...presumably specifically limited visitor technologies strictly excluding anything that could be used in weapon development? In other words, perhaps what the Pentagon had was as good as it got - there was no more on offer at that time.

The Roswell issue remains hotly disputed, especially as the US Pentagon have gone into print in the past denying any cover-up [8]. Unfortunately many of the original witnesses have now passed on and there is little remaining evidence and hardly any firsthand accounts available. That '*something'* fell from the sky in the New Mexico desert is certain beyond doubt. What that '*something*' was remains a mystery unless new evidence becomes available (See Appendix 1).

If what has been said about the integration of alien technology into American scientific research is true, then perhaps it would be more profitable to look for applications that employ metal sheets that are as thin as cigarette paper foil but which you can't burn, bend or cut. The evidence of such a material suddenly occurring on the scene would substantiate much of what has been said about the Roswell alien science harvest, rather than trying to prove that fibre

optics and lasers came from that harvest. As far as it is known, no such metal exists officially and moreover, we would have to *have a need for it* notwithstanding the many modern advances made in materials sciences that include metallurgy, carbon fibre composites and specialised synthetic materials.

It has been reliably estimated [4] that by 2020 new materials applications will include such things as materials customised by manipulation of individual atoms, smart clothes which can alter their own thermal properties, nanotechnology used in regular manufacturing processes, polymer gels for human muscles, bioreactors and information processing and much more. It is difficult to see how any of that science comes from the revelations learned from the Roswell 'saucer'.

Strange delta and 'pumpkin seed' looking aircraft are seen regularly, especially in North America. In the late middle to late 1990s an aircraft that was thought to be the mythical 'Aurora' was sighted in the US. The 'Aurora' was said to use a radical new type of ramjet propulsion flying in near space at supersonic speeds. It is possible that flight tests of the Lockheed ‘Venture Star’ re-usable ground-to-orbit aircraft were seen. However, in the 9th March 1992 edition of Aviation Week & Space Technology it had been suggested that the high altitude Northrop B2 stealth bomber used a mixed power plant, conventional but adapted stealth jet engines, and an anti-gravity system presumably capable of being switched on or off at will! Was this a clumsy attempt at disinformation?

It has also been heavily rumoured that experiments have and are continuing to be made in exotic 'wave riding' systems where aircraft effectively 'float' on high energy microwaves generated on-board the aircraft. The advantages of such a system could enable next generation aircraft to overcome many of the aerodynamic limitations of supersonic compressibility effects and propulsive limitations of conventional jet engines. As one would expect, much of this kind of research is being done in the US, but it is not unreasonable to think that the UK would also be involved at some level in the process. At the end of 1997 the UK MOD ignored a direct inquiry concerning 'wave rider' research and denied that there was a UK sourced unmanned delta configured to be transparent to current radars as a result of special ceramic coatings developed at DERA* (Defence Evaluation Research Authority) being tested in UK skies.

*In 2001 DERA was split into QinetiQ and DSTL and re-branded, the former being a commercial company. The second acronym stands for ‘The Defence Science & Technology Laboratory’.

A strange case that may have involved a secret ‘home grown’ UFO and a subsequent official cover-up, was to become known as the Lonnie Zamora affair or the Socorro New Mexico Case that occurred on 24th April 1964. Over the years much has been written about this case, ranging from an actual landing of an alien spacecraft to a possible emergency landing of a terrestrial research vehicle, or that somehow Zamora imagined the whole episode, or that local youths staged an elaborate hoax against Zamora as a reprisal against his alleged over zealousness at catching them speeding. Allegations had been made that Zamora was involved in a publicity stunt with the then local mayor (Holm Bursom - also a prominent local banker), to create a profitable tourist trade side-show which would inevitably ensue if people thought an alien spaceship had actually landed in the town's vicinity - and somewhat coincidently - on the mayor's property. That is something that Bursom and Zamora strenuously denied.

The available evidence did not suggest that anything untoward had occurred on the part of 'Lonnie' Zamora or the town's mayor. Or, as some people have suggested, that an elaborate hoax was perpetrated by a young cop who hated speedsters. The general consensus of most researchers indicates that 'something' physical did touch down on scrubland about a mile or so outside Socorro at about 5.45pm on the 24th April 1964. What that 'something' was remains open to question...but there are clues. Those clues do point to the possibility of an unscheduled and unauthorised testing and touchdown of a lunar research vehicle from Bell Aircraft Corporation whilst under contract to NASA.

However, it should be mentioned that Major Hector Quintanilla, Director of The USAF's 'Project Blue Book' [31] carried out exhaustive inquiries at the time in an attempt to find out whether there was any evidence to support that idea, and failed to find any despite the fact that material traces had been left at the site of the craft's touchdown.

This is particularly interesting as some rocks containing metallic scrapings had been taken to NASA for analysis and had subsequently got 'lost'(?). Timothy Good expands on this aspect in his book 'Above Top Secret' [9] (page

367). NASA eventually admitted telephonically that the metallic samples were strange inasmuch they consisted of a zinc/iron alloy combined in a way which was unknown to current manufacturing processes either in the US or the USSR *(author: This is not strange because finding a combination of Earth elements alloyed in a way which makes a metal unusual does not, in itself, confirm that a metallic sample comes from an extra-terrestrial source).*

To claim extra-terrestrial origin we should expect to find metallic elements that either did not exist on Earth, in the isotopic form we are familiar with, or as completely unknown elements existing naturally in nature i.e., by alien methods of synthesis or importation. On the other hand, it is also reasonable to assume that if ETs were spending any protracted periods on Earth they would generally find it necessary to use materials which were freely available, but adapted to their own specific uses. Using this logical assumption, the Socorro craft cannot be ruled out as an ET vehicle in the absence of any other evidence. However, the available evidence lends weight to the argument that the vehicle was, in the balance of probabilities, more terrestrial than extra-terrestrial.

It is odd that the NASA scientist who made the telephone admission Dr Henry Frankel - Head of Spacecraft Systems Branch, confirmed that such a metal would make an excellent coating material for a spacecraft's landing gear and furthermore, he would be prepared to make an official Congressional statement to that effect if required. Unfortunately, the metal scrapings and Dr Frankel seemed to disappear after that and the doctor remained unavailable for any further comment or interviews.

It seems Dr Frankel may have given the game away by going public about aspects of a potential NASA lunar vehicle and embarrassed NASA and therefore the US Government, in the face of fierce competition from the Russians in space exploration. It seems NASA were attempting to cover-up mistakes and Dr Frankel was either ignorant about the experiments with the outsourced lunar lander, or he spoke out of turn. Seeing that NASA is a large compartmentalized and possibly bureaucratic organisation, we may assume he was unaware (until advised later) of the Bell Aircraft Project for NASA.

Oddly, no mention was made that the brushwood which suffered burning at the time of the landing had subsequently exuded sap which was alleged to be radioactive when taken to a Los Angeles laboratory for analysis [30] (page 134). Unfortunately, it is not known how radioactive the samples were when

compared with background radiation of the area or by a radiological study of the landing site. Dr Hynek admitted that he had not been able to find out whether the site had been surveyed for any unusual radioactive traces *(author: odd, seeing the depth of the investigation).* He would later joke about a 'radioactive finger' that got cut whilst examining samples.

For readers who are unaware of the mention of Bell Aircraft Corporation's lunar lander involvement for NASA, it is mentioned in 'Project Blue Book' [30] correspondence between Dr Donald H Menzel, astronomer and a well known UFO debunker, and Dr J Allen Hynek professor of Astronomy (consultant to Project 'Sign', 'Grudge' and 'Blue Book' was alleged to also be a CIA consultant). The letters have been reproduced in full as they were published: (Credits to 'Project Blue Book' - Ballantine Books [30])

From: Dr Menzel to Dr Hynek - 29th September 1964.

"...For SCSTC your SCFTC 16-6-13. The possibility of a research vehicle being involved in the Socorro sighting has been investigated. The army liaison office at FTD has been contacted and the case has been discussed with them at great length; however, they have no knowledge of an army research vehicle that would leave marks such as those found at Socorro. Lt.Col. Conkey and Maj. H Mitchell of the AFMDC have also been contacted and the case has been discussed with them. Both of these officers were aware of the case before our discussion; however, neither one of them has any knowledge of a vehicle in the Holloman area, such as described in the report. Bell Aircraft Co. has been queried regarding their research on a lunar landing vehicle that would leave impressions on the ground such as those found in Socorro.

One such vehicle has been delivered to the Air Force at Edwards AFB: However, this vehicle is not operational and is not scheduled for tests until the latter part of June. SAFOI and they have received no reply. Col.Conkey, while on a recent visit fifteen letters were written to industrial companies asking them for their research status on lunar landing modules. Thus far, information received from these companies has not been useful in solving case. NASA in Wash.D.C was contacted by to FTD, remarked that security in Holloman is extremely tight. Re: SCFT Assistance.

Still believe that tenant organisations at Holloman hold key to sighting. Could SCFT ask Holloman Base Commander to grant audience to FTD/UFO

Project Officer (Capt. Quintanilla) [sic] in order to discuss developments have been nil since Dr Hynek's briefing to HQ AFSC."

Reply from Dr Hynek to Dr Menzel: (Author: gaps appear in the letter presumably to protect the identity of Zamora).

"Dear Don.

Thank you for your letter of September 10, and I'm glad you liked the review.

With regard to the Socorro case, I wish I could substantiate the idea that it was a hoax or a hallucination. Unfortunately, I cannot. I have talked at length with the principles in the sighting, and unless my knowledge of human nature is utterly out of phase I would feel that [he] is incapable of perpetrating a hoax. He is simply a good solid cop whose two early comments are in themselves quite revealing.

The first was to ask his superior whether he should first talk to his priest and his second was that he resented the whole thing because it prevented him from getting his quota of speeders that day: He is not imaginative, sticks solidly to the business, and is far from talkative. His superior, Sergeant Chaves, is much more articulate.

Major Quintanilla is convinced that the Socorro sighting is neither hoax nor a hallucination, but he feels that perhaps some sort of test object (war games, etc.) might have been going on. However, there is no record of such even though he has tried to track this down through White Sands, Holloman Air Force Base, and a few others. I would like to go along with the hallucination idea if it weren't for the marks and the burned patches. I arrived there several days afterward, of course, but the marks had been preserved, and I have the word of nine witnesses who saw the marks within hours of the incident, who tell me that the center of the marks were moist as though the topsoil had been freshly pushed aside. The four marks when plotted out lie such that the diagonals intersect at exactly ninety degrees, which may or may not be significant.

Then, of course, we have the testimony of the tourist who stopped by a gas station (I talked to the filling station man in detail) who while waiting for his change remarked, "Your airplanes fly awfully low around here, one liked to knock me off the road just south of town".

Whereupon the attendant replied, "Oh, we have a lot of helicopters flying around here."

To which the tourist replied, "If that was a helicopter it's the damdest helicopter I ever saw. It seems it was in some sort of trouble because he landed just over the hill, and a little later I saw a police car going out toward it."

I checked the times on all of these, and they jibe well within human error of time estimates. Furthermore, I talked with all the townspeople I could get hold of, including the baggage man at the station, the priest, and several people who have known him since he was in knee britches. This baggage man at the station, (baggage men have a way of knowing everything about everybody in town) gave him one of the cleanest bills of health I've ever heard from anyone.

Furthermore, one of my astronomy undergraduates did a term paper on the Socorro case since he comes from Socorro and his aunt essayed to gather a great deal of raw materials for him. She personally visited and went up and down the town fishing out what she could. In her talk with..... she quotes.....as saying, ..."just gave himself up to God." The term paper was complete with geologic map, road maps, etc. and while I asked the student undertaking the term paper to do everything he could to find an obvious natural explanation of the sighting, he was unable to do so. I think it's time for H.M. and Lyle Boyd to get in the act to solve this mystery! I'm stuck.

Furthermore, I revisited Socorro on my way to Las Cruces a month ago just to check the pulse. I thought perhaps that if I talked to..... and the other again, they would certainly had some afterthought about the thing after this many months had passed. ....., if anything is more reticent than before and, although I tried to find negative character references for..... or some sort of medical history, I met nothing but a wall of good character references.

The guy doesn't drink, cavort with women, or recite poetry. He captures speeders. In fact, as you know, he was chasing a speeder when the incident occurred. He was in uniform, on duty, and this is a situation hardly conducive to an isolation hallucination or what-have you. He is the sort of cop who when he chase a speeder has a one track mind and wants to get his speeder and make up his quota for the day. It was, I think, only because he heard this noise and reportedly saw a flash of light out near the mayor's dynamite shack (he is apparently beholden to the mayor for his job) that he swerved aside from his

normal course of duty to respond to what he thought was a higher call, namely to do a good turn for the mayor and his dynamite shack.

Also the fact that when he first saw the object in the distance, he stated that he thought it was an overturned auto, doesn't sound like the start of a hallucination. He first saw it from a distance of a good quarter mile - more like half a mile and then of necessity lost sight of it for a couple of minutes while he drove around hillock which obscured his sight. It was not until he rounded the hillock and came onto the small mesa that he was confronted with the object a bare 200 feet away from him. I re-enacted the crime with him, along with stopwatch, etc. and throughout the whole thing, he had none of the marks of the crackpot as I found, for instance, in my interview with ……., just a solid cop. So, you come up with an answer please."

Despite all best efforts (especially on the part of Major Quintanilla) the truth about what happened at Socorro seemed to suddenly come to a jarring halt in much the same way that many other promising investigations get stone walled by a security clampdown, or by the inaction of frightened witnesses who will not come forward. The exchange of memos between Menzel and Hynek contain acronyms with which the reader may not be familiar. Listed here are some explanations of pertinent acronyms to assist understanding where they are known:

AFSC- Air Force Systems Command (the FTD is as division of AFSC)

OSI - Office of Special Investigations (abbreviated version of AFOSI - Air Force Office of Special Investigations)

SCFT - Systems Command Foreign Technology

FTD- Foreign Technology Division (Air Force Agency which collated UFO sightings and monitored investigations of individual cases)

SAB - Scientific Advisory Board

However, let's now back track a little in this case and study the details again...

Dionicio Zamora ('Lonnie' Zamora) joined the Socorro Police Department, New Mexico at the age of eighteen in 1951 and at twenty-one years old became a full time police officer. On 24th April 1964 with over ten years of operational experience, he was to encounter something so strange that it would stay with

him for the remainder of his life. A modern version of events relates the following:

Whilst Lonnie was on routine patrol duty, and after dropping his partner off, (who was a part time officer) he saw a speeding car and gave chase. Whilst in hot pursuit he saw what appeared to be a blue flame in some desert and a cloud of dust. Thinking that a crash had occurred he abandoned the chase and drove over to where he had seen the disturbance. The time was about 5.45pm. As he got nearer he saw a white object in a ravine and near an old dynamite shack. Thinking that the object was an overturned truck or car he was concerned about a possible explosion. However, as he got near enough to see that the object was not a truck or car, his police radio failed to work, as did his car engine (following the incident his radio required repairing).

He admits to not actually seeing any occupants but did mention that he saw what appeared to be two entities in white boiler suits in the vicinity of the egg shaped object. He continued to watch the object and was able to draw it and the insignia being black stood out prominently against the white of the object (Zamora was sure that the insignia or emblem was black). He was alone in the area for about thirty minutes and remembers hearing a sliding noise that he would later associate with a sliding door or window sound prior to the departure of the object.

After the object had departed and his colleagues had joined him, he went down to the landing site and noticed that the site was still smoking. A large rock which must have been directly under the craft had melted in two. An Air Force Officer shortly appeared on the scene with a Geiger counter and checked the immediate area. Zamora noticed that the Geiger counter needle swung into the red zone but slowly returned to normal after a little while. Zamora asked the Air Force Officer if radiation had been detected - obviously worried for his own safety – and was told there was none. Zamora did not intend to report the incident but was told by his supervisor that he must file a report. He was shortly thereafter interviewed by the State Police, the FBI, Military Intelligence and Major Hector Quintanilla, who was the Chief Investigator for the US Air Force 'Project Blue Book'. He was also interviewed by newspaper reporters and by representatives of various UFO organisations.

'Lonnie' Zamora probably regretted he ever got involved in this strange case on that fateful day. His life got disrupted and caused him and his family a lot of

stress. So much so, he sought spiritual help in order to deal with his fears and nightmares that the object would return to get him. This suggests that there are memories that have not surfaced. These suppressed memories may involve an actual abduction, or an attempt at abduction by the craft's occupants. Zamora lasted just two more years as a policeman following the incident and then sought alternative employment. However, the report Zamora filed with Project Blue Book fleshed out much more detail and follows below...

Whilst chasing a speeding car, Zamora heard a roaring noise and saw flames, narrow and streamed downwards into a funnel shape. They were bluish and orange in colour. He abandoned the chase and tried to get to where he thought an explosion had occurred which necessitated driving up an unused road and gravel covered hill. He then saw what he thought was an overturned car standing on end. He was about 800 feet (approximately 243 metres) with his police car on the crest of a hill and the strange object was directly ahead. He had one glance of two beings in white boiler suits (described as coveralls) and he thought they were the occupants of the strange looking vehicle. He subsequently did not see them again.

He radioed police H.Q and told them he was going closer - still thinking it was a car accident. He got to about 150 feet (45.7 metres) and stopped the car to proceed on foot to get a better look. The object was egg or oval shaped, white and stood on what appeared to be girder type legs. He shortly heard a roaring sound and saw smoke and flame coming out of the bottom of the object. He thought it was about to explode and turned to run from the scene. In an attempt to crouch behind the police car, his spectacles fell off and he bruised his leg. He crouched down, shielding his face with an arm until the noise stopped.

On glancing up he saw the object had risen to about 20 or 30 feet above the ground (6 to 9 metres) and the flame and smoke had stopped. At this stage he noticed a design on the side of the object in red *(author: he said black in his first report)* about 1 to 1.5 feet in height (0.3 to .46 metres). The symbol was shaped like a crescent with a vertical arrow and a horizontal line underneath. The object remained stationary for a few seconds more and then flew off in a southerly direction following the gully contour.

Just moments later, Sergeant Chavez of the New Mexico State Police arrived in response to Zamora's radio call. He did not see anything of the object but reported that there were slight ground depressions and what seemed to be

burned brush in the landing area where Zamora had said he seen the object. The greasewood brush was now cold to the touch. Chavez thought the matter was serious enough to be reported to the local military.

The US Air Force sent investigators from the Project Office at Wright-Patterson. In thorough style, they established that no other witnesses to what Zamora had seen could be found. There had been no unidentified helicopters/aircraft in the vicinity and radars had not reported anything unusual. Investigation of the landing site had established that whilst there were visible shallow depressions there were no other markings and soil analysis did not reveal any unusual radiation. Furthermore, laboratory analysis of the burned brushwood did not show chemical traces of any propellant. In using this analysis, the Air Force concluded that no threat was posed to the security of the United States and that the evidence presented did not indicate the object was *extra-terrestrial in origin (author's emphasis).*

The Air Force investigation seemed to wring out even greater detail from the incident and Zamora's testimony. In giving evidence to the investigators, Zamora could not remember exactly where the dynamite shack was and he had to search for it. Suddenly he noticed to the south of his position a shiny object and he thought it was a car on its roof, probably as a result some kids pranks. Then he saw the two 'people' in white boiler suits, close to the object. There was nothing unusual about their shape that indicated they looked human in appearance. One of them seemed to be startled by Zamora's presence and stopped what he was doing to look straight at Zamora.

At this point Zamora's caution gave way to his public spirit and he concluded he would help them without quite knowing what help they might need. He states the object was aluminium white but not chromed, smooth, having the appearance of a white car that had overturned. Zamora approached the object and before leaving his patrol car radioed the Socorro dispatcher that he would be on foot investing the object.

In an exchange of correspondence between Dr Donald H Menzel and Dr J Allen Hynek, Menzel confirms that military people that should know of any unusual activity in the area confirmed there had been none. However, he points out that the Bell Aircraft Company was quizzed with regard to their research on a lunar landing vehicle which would leave impressions on the ground as found at Socorro. It was found that one such vehicle was delivered to the Air Force at

Edwards AFB, but the vehicle was reported to be non-operational and not scheduled for tests until late June of that year (the Socorro incident occurred in late April - see Appendix 1).

In his 29th September 1964 letter Menzel also makes some remarks about Holloman AFB, New Mexico which with hindsight many years on, seems strangely resonant particularly when Jacques Vallee in his book, [6] 'Revelations - Alien Contact and Human Deception' mentions that in somewhat of a reversal of the cloak of secrecy surrounding official denials of alien contact, the Defence Department had decided to make a PR film using Holloman AFB, because of its remoteness, depicting a simulated landing of an alien craft and a simulated meeting between US military representatives and aliens.

NASA had been approached for assistance and had demurred firmly saying they had no film footage of any relevant material. However, they were pressed and given specific data to identify particular film segments taken by astronauts. The film they eventually released was unequivocal and did not show any discrete image that could be interpreted as a UFO.

Vallee tells us that at a production meeting in Washington, the Air Force suggested that '...it would be nice to include footage about and actual contact that might occur in the future, or perhaps had already occurred...'*(author: presumably between the aliens and the military?)* The film producers, Alan Sandler and Robert Emenegger were obviously enthusiastic. In a sequence that resembled Spielberg's 'Close Encounters of the Third Kind' three objects appear in the skies over Holloman AFB in the early morning about 05.30 hrs. The year is said to be 1970. One of the objects peels off and lands gently. Three 'men' emerge from the craft wearing clothes that look like jumpsuits. They have large prominent noses and a blue grey complexion and wide spaced eyes. They are met by two scientists and the Base Commander and are led away to an office area of the Base.

Vallee relates that the USAF never made it clear whether the footage was real, or whether it was made for physiological training purposes or some other kind of training for Base personnel. Dr Hynek was involved in the production of the proposed movie documentary and had been initially very surprised at the ease in which the film crew had been admitted to a Secret USAF facility. The surprise at the unprecedented co-operation of the USAF was made even greater when security clearances were ordered effectively almost immediately.

The film crew thought that they would get their hands on the actual film footage of the alleged landing, but were very disappointed when they were shown animation sequences and shots of the Holloman Base with drawings of the alleged aliens. The film crew and Hynek left in disgust having had tantalising admissions from the USAF about aliens landing at Holloman and then withdrawing the film footage at the last minute. Vallee advises that he has learned that the film footage exists and is not even classified. This probably means the USAF perpetrated a cruel joke on the film crew, and Dr J Allen Hynek, their Project 'Blue Book' consultant who by now may have thought that the Pentagon really did have something to hide.

However, in his 29th September 1964 letter Menzel tells Hynek that fifteen letters were written to industrial companies asking about the level of their research programmes on lunar landing modules and their replies held no clues as to the solving of the Socorro case. NASA in Washington DC did not even reply. Hynek (who started out as a UFO debunker but was later said to be converted by the amount and quality of evidence) replies to Menzel confirming that investigator Major Hector Quintanilla is convinced that Zamora's sighting was neither a hoax nor a hallucination. Everyone agrees that Zamora was not the sort of man to either perpetrate a hoax or hallucinate (see correspondence from Dr Hynek to Dr Menzel – Project Blue Book).

The ground traces continued to cause interest however. Hynek arrived several days later to see the site for himself. Unusually, the landing traces had not been destroyed and had been preserved as the only remaining hard evidence that the event had actually happened. Hynek had the testimony of nine witnesses whom had seen the ground traces shortly after the event who told him that the centre of the indentations were slightly moist as though the top soil had been freshly pushed aside. He noticed that the four indentations exactly intersected at 90º - perhaps this is a clue?

An independent witness who was a tourist buying petrol had come forward saying that he had nearly been knocked off the road by a strange flying object around the time of Zamora's account. The witness apparently knew the difference between a helicopter and the object that nearly collided with his car. Estimates place the time of the tourist's road encounter at around 5.35pm or 5.40 pm which seems to corroborate Zamora's story.

It seems what Zamora might have seen was more from Earth than outer space. The fact the two humanoids were dressed in 'white coveralls', and seemed startled when one of them saw him, and that the craft used what appears to have been rocket or jet propulsion, both conventional power sources at the time, coupled with the fact that several contractors had been employed to work on the Lunar lander (particularly Bell Aircraft), indicates strongly that what was seen was a somewhat bungled test flight which was not supposed to have happened until much later... two months later. As for the insignia - who knows? Could it have been a project 'in joke' or could it have been an insignia that could be traced back to the contractors competing for NASA's enormous fund of contract dollars? And why is Zamora so sure decades later that the insignia was definitely black on the white hull of the object, not red as the original Blue Report reported it?

There is a strange postscript to this incident, physicist and author Dr Jacques Vallee, reports an almost comic case which occurred on the same day of the Socorro event, but around ten hours prior to it [29]. The landing was said to have taken place in Tioga City, New York in a farmer's field. The farmer, Gary T. Wilcox was working in his field when he decided to check out another field about a mile away (1.6 kilometres) from his barn to see if it was ready for ploughing. As he approached the wood edged field, he noticed a shiny looking object that he thought might have been an old refrigerator or an aircraft part that had fallen from the skies.

As he got closer to the object he noticed it was egg shaped and measured about 20 by 16 feet in size (app. 6x5 metres). The thing looked metallic and he remembers he had never seen anything like it before. Cautiously, he touched the object and he found it was not hot. He looked for doors or hatches but found none. Suddenly two humanoid creatures appeared as though from nowhere and they seemed to be about 4 feet tall, (1.2 metres) wore clothes with no visible seams but their faces seemed to be covered from view by some kind of headdress. However, they looked to be normal in most respects and had arms and legs. Wilcox claimed they talked to him in what he describes as 'smooth English' but he felt their voices did not come from their mouths but somehow came from their bodies.

They claimed they came from Mars and by this time Wilcox probably thought he was on Candid Camera! They claimed their reason for being in the farmer's field was because they were interested in fertilizers, particularly as they

were having a lot of difficulty in growing crops on Mars. Wilcox remembers that they had little grasp of agriculture and possessed a very simplistic understanding of the subject, which might suggest the agricultural aspect, might have been a cover for other activities they were engaged in. They went on to explain things about their craft and that they could only visit Earth every two years. A lot of this went over Wilcox's head but he eventually agreed to let them have a bag of fertilizer but as he went to get it, their craft took off and disappeared. Despite that failure, Wilcox left a bag of fertilizer and the next day when he checked it had gone. The next witnesses would not be so fortunate.

On the 28th April 1981, the US Globe Newspaper reported that two women and a seven year old child had experienced a remarkable UFO encounter with quote: '...a 24 strong fleet of alien craft'. Unquote: around 30 miles (48.3 kilometres) from Houston, Texas on the 29th December the previous year *(author: It is a strange coincidence that this fateful encounter took place within the same timeframe as the Rendlesham Forest episode at the USAF Base at Bentwaters in Suffolk. mentioned later).* The incident would later become known as the 'Cash/Landrum' affair.

The newspaper report describes how Betty Cash, her friend and employee, Vickiee Landrum and her grandson Colby were driving on a lonely country road about 30 miles from Houston towards Dayton, Texas in a 1980 two door Cutlass Oldsmobile when suddenly at about 9pm an extremely bright, luminous object appeared in the night sky. Vickiee Landrum recalls the object as, "...just kind of exploded from nowhere...It kind of hovered over the road blocking our path...it was so bright that we could not tell what was the source of the light".

Betty Cash stopped the car feeling a tremendous heat surge strike her from the object. She told the newspaper reporter that, "It hit like a physical blow.... if we hadn't stopped, and I'm sure we would have run into the thing and probably burned up.... The outside temperature was about 40º Fahrenheit (4.4º Celsius), but I had to turn the air-conditioner on and we could still feel the heat...." Landrum comments, "The thing where the fire was coming from looked to be about the size of a water tank.... Colby kept telling us it looked like a diamond with one end rounded off.... The first thought that came to mind was that the world was ending..."

Oddly, under the circumstances, both women felt a compulsion to get closer to the blinding object still hovering in front of the car. Landrum comments,

“...Betty got out and started to walk toward it.... I stared to get out too but my grandson was crying and carrying on so that I went back to calm him.” Betty Cash went several yards before the heat forced her to withdraw. The object hovered in front of them for another 15 minutes before drifting away towards Houston.

Betty got back into the car and they drove on for about 3 miles (4.8 kilometres) when Landrum says they, “.... heard a terrible roaring sound... we saw what looked like helicopters circling around the object...” Betty Cash counted 23 of them quite deliberately to help her think she wasn't going crazy. They watched the craft manoeuvring for a while before the mystery light and the helicopters vanished from view.

Betty Cash then drove the three of them home to Humble, Texas. Cash comments, “When I got home I had a splitting headache.... and there was a burning sensation that seemed to pierce my body... I haven't been free of that headache for more than a half hour since...”

In the morning following the incident Betty Cash had developed knot-like boils the size of 50 cent pieces on her neck and head. The lumps kept returning, oozing a clear warm fluid. Then patches of her hair began to fall out. Landrum, in the meantime, suffered slightly less from the effects of her encounter but recalls that she and her grandson Colby, “felt as though we had bad sunburn around the face and neck, I lost some hair but it has grown back”. (Landrum's MD told the newspaper that she had suddenly developed cataracts) “Betty got the worst of it because she got out of the car to investigate”. Betty Cash spent most of January in a Houston hospital but because she did not tell doctors of her ordeal they found it difficult to diagnose what was wrong with her.

Betty finally told them about the encounter with the strange object the second time she found it necessary to attend the hospital. She commented that she was scared that they would laugh at her and tell her she was crazy. Her MD (who wanted to remain anonymous for the newspaper interview) told the reporter that Betty Cash had all the classic signs of radiation poisoning when he first examined her, but he had dismissed his diagnosis because he thought it ridiculous. When she told him of her encounter, he changed his mind.

The Globe Newspaper reported that the women's story had totally convinced two UFO investigators, Bill English of APRO (Aerial Phenomenon Research Organisation) Tucson, Arizona and John Schuessler, a top NASA

engineer in Houston. The Globe backed investigation established that there had been no aircraft movements that night which would explain the incident. However, interestingly, the newspaper's independent research revealed that another diamond shaped object had been sighted at the end of November on a country road at a place called ‘Liberty’ about 40 miles (64.4 kilometres) from the spot where Betty Cash, Vickiee Landrum and grandson Colby had confronted their strange object.

A witness to this earlier sighting was Nellie Zedick (a 58 year-old realtor from Liberty) who was travelling with her daughter and son-in-law. She is quoted as saying, “.... We didn't get closer than a mile or so, and it kept moving, but it was definitely diamond shaped with a slight rounding at one end...”

Due to her experience and subsequent ill health, Betty Cash had to cancel plans to open a restaurant and moved to Alaska to recuperate. She told the Globe newspaper, “I just hope and pray I get better soon....” Unfortunately, Betty Cash died on the 29th December 1998 as a result of continuing health problems associated with her encounter with the strange object exactly eighteen years earlier. Later accounts of the fateful encounter would reveal much more detail of the incident that is now worth repeating.

According to later versions of the same account the first indication of something unusual occurred when the trio had been alerted to an intense light several miles ahead of them as they journeyed along a dark and narrow road near Huffman, Texas. It was almost 9pm in a dark December night as restaurant owner Betty Cash drove her friend and employee Vickiee Landrum and grandson Colby home. The road was deserted and there was no other traffic. The intense light the party saw was first seen by Colby (Vickiee Landrum's grandson) just above some tall pine trees and he told his grandmother and Betty Cash to look at the strange object. Betty commented that the light was very bright in intensity, but it was soon lost to view shielded by the many trees along the road.

Suddenly, the object seem to 'split open the sky' and the object came angling down directly in front of the car and hovering between the trees just ahead of them and over the road, high enough for the car to drive under the object. The thing was huge and it was throwing off so much heat that they decided it would be too dangerous to attempt to drive under it. Betty stopped the car and the heat from the thing made Betty and Vickiee open the car doors

because the car was now heating up rapidly. Vickiee momentarily stood outside the car, but quickly returned to it to console her grandson Colby who by now was getting upset.

Betty was determined to get a better look at the object and inched forwards along the car's side panels at the same time shielding here eyes with an arm. She was exposed to the heat from the object for several minutes. The object eventually flew away from the scene and the trio noticed helicopters flying near the object. They later stopped the car further down the road and counted 23 helicopters, many of them with twin rotor blades. Many other people in the immediate area apparently came forward later to corroborate sightings of the object and the helicopters that night.

Before that night was over they all experienced adverse biological symptoms and Betty Cash had a severe headache that she tried to shake off by just relaxing in a chair. Instead of getting better, she got worse. Over the next few hours her skin became severely red and she developed blistering on her head and face with eyes swelling shut. By the morning she was very ill and could not get out of bed.

Following the New Year holiday she was taken to Parkway General Hospital in Houston because she could neither eat nor drink and they treated her as a burns patient not being aware of the real reason for her condition. She remained in hospital until 19th January, well enough to go home and thinking that she would get better but unfortunately, was re-admitted on 25th January. She now had suffered much hair loss, resulting in a temporary bald patch, severe headaches, skin lesions caused by burns, constant difficulty with eating and food retention due to vomiting and diarrhoea.

Betty Cash left the Houston hospital again in February and was taken back to Birmingham, Alabama by her mother - Pauline Collins - so that she could be cared for there. Betty was to experience more emergency visits to hospital whilst in Birmingham AL. At the end of February 1981 Betty's bill for MD services had risen to US$10,000. Betty would eventually suffer breast cancer and a mastectomy (but perhaps not as a direct result of the 29th November 1980 experience...no direct link has ever been established).

MUFON (Mutual UFO Network) and the lawyer Peter Gersten attempted to find out what the trio had been exposed to and what could be done to ameliorate the effects of the exposure. In the course of events following a legal challenge

for damages from the US Government for the sum of US$ 20 million, it was determined that the US Government had no case to answer as no such object described by the witnesses was owned, operated or was in the inventory of the USAF, the US Army, the US Navy or NASA. Judge Ross Sterling dismissed the case in August 1986. He considered that the expert testimonies provided from all the afore-mentioned agencies gave him ample reasons to ignore the claim for damages.

[9] Timothy Good speculates that the object may have been an experimental device that had malfunctioned on the basis that it had been accompanied or possibly escorted by conventional helicopters. The theory being that the purpose of the helicopters would be to seal off the area if a forced landing would become necessary. Good has commented he has heard rumours from normally reliable sources that the device was either a nuclear powered experimental space shuttle or 'lighting device' that got into difficulties. Presumably, the device may have had auxiliary conventional rocket propulsion as a power plant. Good also commented that less reliable sources have speculated that the object may have been a nuclear powered device on a test flight in conjunction with 'Project Snowbird' which is alleged to exist as a programme initiated in 1972 to flight test recovered alien craft (See App.1).

However, upon closer analysis of the case there remain many unresolved questions, some of which I will outline below:

(a) Unlike the rest of the World, the US uses radar to routinely direct and monitor air traffic movements even to the extent of dispensing with agreed flight plan routes altogether when aircraft are in the air. Radars are therefore in constant use to detect traffic in local and regional airspace across the United States. A busy international airport such as Houston, and at a very busy time of the year, may have detected the object and accompanying helicopters but it appears that radar tapes were never requested or examined and no radar operator or flight controller was asked about their evidence.

(b) The helicopter issue is interesting, as later versions of the incident seem to assume that all the helicopters were Chinooks (see Appendix One). Other accounts do not specify that all the helicopters were Chinooks (or more accurately twin rotored machines which indicates they may have been Chinooks) but only that some of them may have been Chinooks and therefore by

inference, carrying military personnel either for contingency or for specific purposes.

It was never established whether the helicopters were escorting the object or whether they were containing it so that it did not stray from a particular flight path. Bill English of APRO is on record as saying that he thinks that the helicopters were 'unmanned probes' something like the NASA Moon landers that were attached to the main UFO.

Helicopters are usually unmistakable in their visual and audio range as well as their obvious aerodynamic behaviour, but due allowance should be made for night sightings as to the absolute identity of the UFO's escort or minders.

(c) It was said by the witnesses that the object came 'angling down' to hover directly over the road in front of their car. This suggests intelligent control. It is legitimate to ask whether this means on-board control or remote control. The question that also springs to mind is why would a test pilot carry out such a risky and unnecessary manoeuvre? If the object was a conventional rocket powered vehicle on-board control would be necessary if the vehicle was a prototype lunar lander.

What better way to protect the aerial investment from prying eyes than to fit the vehicle with lighting equipment that would provide millions of dazzling candle-power and fly it at night. The buzzing of the Cash/Landrum car may have just been bravura on the part of the pilot(s) - a gross error of judgement and a mistake that could have had tragic consequences for all concerned. Such antics surely would not be risked by remote control systems - especially at night?

(d) Much has been made of the radiation effects, particularly to Betty Cash. It is important to understand the facts about ionising radiation and its effects on the human body. We are all constantly bombarded by radiation every second of the day. Natural or background radiation passes through our bodies with no effect from cosmic rays and very fast neutrinos. The Earth's atmosphere fortunately helps to shield us from other harmful effects such as some kinds of ultra violet radiation that can cause skin cancer.

Radio and television signals pass through our bodies with increasing regularity and recently doubts over human health safety issues have been raised over prolonged exposure to EM (Electromagnetic) energy with overhead power

lines, electrical transformer sub-stations and excessive mobile phone use which, recent Scandinavian research indicates may cause brain lesions over an extended period of time.

The real risk comes from harmful ionising radiation that emanates from radioactive sources via nuclear decay, fission or fusion. The same effects can occur through the irradiation of a radioactively inert substance by an ionising radioactive source. As a result of these processes there are four main areas in which we should look at in regard to the symptoms Betty Cash experienced seeing that there are known health risks in being exposed to radioactive sources. However, the individual categories of radiation are not so well known. For the sake of clarity these categories are listed and characterized below.

There are four main groups of ionising radiation the first (and most dangerous) being GAMMA radiation:

GAMMA radiation: consists of electromagnetic waves similar to X-rays, but gamma radiation wavelengths are much shorter and have greater penetrating power. This radiation can travel thousands of metres/feet in air and can pass through dense materials such as metal, brickwork etc… but gamma intensity becomes reduced by doing so. The radiation may be scattered forward, backwards or sideways so there is no such thing as complete protection. Absorption of gamma radiation by the body has extremely adverse effects on tissue and subsequent survivability.

BETA radiation: This type of radiation consists of very fast electrons with small mass and an electrical charge of minus one. The most energetic particles will only travel a few metres/feet in air just penetrating the skin possibly causing skin burns. These particles may be stopped in some cases by normal thickness of rubber or glass. The main hazard is ingestion from inhalation or by contact with the beta-emitting subject.

ALPHA radiation: This type of radiation has very limited penetrative power and can be stopped by a single sheet of paper. Complications only occur if an alpha emitting substance is ingested (mouth or lungs) or through an open wound. In that case, the substance will cause tissue damage over a long period as the substance continues to emit alpha particles inside the body.

NEUTRON radiation: Neutrons are copiously produced in nuclear reactors and are very dangerous. They have what is known as a unit mass but no charge. Neutrons have similar penetrating powers to gamma radiation. Whilst gamma

radiation reacts with electrons within atoms, neutrons react with the nuclei of these atoms. When a neutron is absorbed by the nucleus gamma radiation occurs. The addition of an extra neutron transforms the nucleus into another isotope that is often radioactive and later disintegrates emitting further ionising radiation.

(e) Living tissue is damaged by ionising radiation (gamma irradiation causing the production of fast-electrons that can dislodge stable electrons from atoms thereby ionising them). This ionising process damages human cells by interrupting a process called 'Mitosis' (a system of maintaining growth by normal cell division). Radiation may impair the cell's ability to perform mitosis, which may eventually cause cell death.

Another form of cell damage occurs to a germ (or reproductive cell) when radiation results in gene alteration but whilst still able to perform mitosis. The system is complicated by the fact that cells possess their own repair mechanisms which means that damage is caused not only on the total radiation dose in RADS (amount of radiation that will result in 100 ergs of energy being released in each gram of irradiated material), but also at the rate at which it is received.

Biological damage is measured in REMS (Roentgen Equivalent Man – however see Notes). To measure damage in man due to irradiation, a new comparative factor is necessary, called the QF (Quality Factor - number of RADS of gamma radiation required to cause the same biological damage to humans as one RAD of radiation. The higher the value of QF is, the more damaging RAD for RAD). The dose in REMS is obtained by multiplying the RAD dose by the QF of radiation actually received. Therefore 20 RADS of radiation of QF5 equals 100 REM. The matter is further confused by the introduction of another measurement that seeks to discern what is called militarily as, 'a unit of biologically effective dose' - the SIEVERT (Sv) equal to 100 REMS [10].

(f) Whole body radiation damage depends on a number of factors that may not be immediately recognisable. For instance, how much of the body has received the dose of harmful radiation? The length of exposure and general health of the subject at the time of the exposure to the ionising radiation is also a major factor.

(g) The parts of the human body most susceptible to radiation damage are:

Bone marrow

The body's factory for the production of new blood cells

(Appearance of symptoms for bone marrow disease occurs slowly).

The lining of the intestine

Radiation damage prevents the lining from renewing itself.

Brain and muscle cells

Failure of the central nervous system will occur in cases of extreme exposure.

In the absence of data relating to civilian populations we have to resort to military science for an understanding of the effects, and dosages of ionising radiation has on the human body.

[10] Military science tells us that whole body gamma/neutron radiation on troops has the following effects:

Dose in RADS	*Effects*
Up to 150	No short-term effects.
150 - 250	Nausea and vomiting within 24 hours, recovery within 48 hours.
250 - 350	Nausea and vomiting within 4 hours, symptom free period begins in about 48 hours, symptoms re-appear leading to some deaths in 2-4 weeks.
350 -600	Nausea and vomiting within 2 hours, many deaths from 2-4 weeks incapacity prolonged.
600+	Nausea and vomiting almost immediately, practically 100% deaths within one week.
2,600	Incapacitation within one hour.
5,000	Complete incapacitation within 5 minutes, death within a day or two.

Because around 50% of those people exposed to 450 RADS will die, 450 RADS is called the lethal dose - the LD50.

Average effects of BETA doses to the skin

Dose in RADS	*Effects*
600	No effects.
2,000	Moderate reddening and soreness.
4,000	Reddening and soreness in less than 24 hours, skin breakdown in two weeks.
10,000	Severe reddening and soreness in less than 24 hours, skin breakdown in one week.
30,000	Severe reddening and soreness in less than 24 hours, severe skin breakdown in a few days.

Whilst some allowances may have to be made for a woman of average build exposed thus to the type and level of radiation in the above tables, it is not difficult to see what levels of ionising radiation Betty Cash may have been subjected to based on her reported symptoms... that is... if her symptoms were solely as a result of ionising radiation. If that was the case and ionising radiation was the culprit, it seems that the table concerning the effects of beta radiation might be more appropriate in respect of the reported skin damage if she did fall victim to a specific radiobiogical event. This is not an exact science and it is well known that the body can repair itself if given enough time to do so. Scientific data suggests that irradiated tissues may take a year or so to recover. However, the same data suggests that between 10% and 20% of the damage due to exposure to radiation remains as a permanent damaging feature [10].

Significantly, only bone marrow that has been exposed to ionising radiation will be damaged i.e., if Betty shielded her eyes with an arm as she approached the object the bone marrow in her arm would take a higher radiation dose than the part of her body she was shielding. But, this aspect would depend on the length of time and the distance from the source of the ionisation and would probably not have had much effect on her whole body dose. The effects of radiation poisoning are, of course a cumulative process, and the body will store up small amounts of radiation until the effect becomes dangerous to health unless sufficient recuperative periods are made to occur. However, in the case of Betty Cash that clearly did not apply.

From the foregoing it appears that Betty Cash *did* experience some form of radiation, chemical episode or possibly both. If the object was a lunar lander rocket powered test vehicle fitted with extremely powerful disguising lights, there is a possibility that the burns and other distressing symptoms she experienced were caused by combustion or leakage of raw noxious chemicals powering the craft. It is also probable that the intense lights and chemical thrusters could have produced the incredible heat mentioned as thermal radiation in short range exposure over a moderate timescale.

If ionising radiation was flowing out from the object on a test flight and its human pilots knew this was happening as a result of the craft's propulsive system, they would hardly risk killing or injuring innocent members of the public - would they? It is also unlikely that given the gamma radiation levels the crew of the object would not survive themselves. *Author: that applies to any unprotected living tissue whether the tissue originates here or anywhere else).*

However, if rocket power was being used, it could be a different story and the pilots might just risk a manoeuvre or two just to prove they could handle the craft. That means the helicopter escort was just that - a friendly escort standing by to assist if necessary. But you might conclude that 23 assorted helicopters some possibly troop carrying Chinooks, may have been just a little over the top on this occasion.

On the other hand, the helicopter 'escort' may not have been particularly friendly being concerned only that the object was vectored into the 'right' sector (no one reported a landing anywhere) which means that the trio may have been exposed to some kind of ionising radiation and that the object may not have been piloted. But the reason for 'buzzing' the trio's car on a public highway remains unexplained if this was what happened.

The fact that another diamond shaped object was seen in November of 1981 by other witnesses, lends weight to this device being kept and maintained in the general area. This suggests that the object had been test flown at least once before and that there was some prerogative or underlying desire to keep it near Houston, or more likely, Pensacola Naval Air Station. If the object was a top secret alien craft which was being tested it is logical to assume that an object only 'as big as a water tower' could have easily been transported to Groom Lake or another top secret location away from prying eyes altogether where it could be tested all day and night if necessary.

The medical problems Betty Cash experienced may have been due to the ionising effects of radiation, but readers will by have now realised that she could not have been exposed to large amounts of gamma or neutron radiation. It is doubtful whether she would have taken any more than around 200 RADS with expected recovery occurring in about 48 hours or so. The damage to her skin would, of course, take longer to recover and her hospital would take regular blood counts to monitor progress *(author: in the US Health Regulations stipulate that a safe limit for human radiation exposure is 0.5 milliroentgens, 0.0005 milliroentgens per hour).*

However, the skin damage sustained could point to a very large dose of beta radiation, considering that she developed skin lesions the following morning after her experience at 9pm the previous evening. Without knowing what the saturated dose rate was in the area where the incident occurred, and the absorption factor of the air (beta radiation is readily absorbed by air molecules) it is impossible to speculate on what her total dose may have been. It was thought that she might have been exposed to the object for around 15 minutes while they all watched it with Vickiee and Colby remaining inside the car.

Under the circumstances, it is difficult to see how Betty Cash could have been exposed to such high levels of beta radiation without also being exposed to very high gamma or neutron levels which would have undoubtedly not only killed her, but also Vickiee Landrum and Colby. Such high levels of radiation would have also made the vehicle they were travelling in 'hot' together with much of the surrounding area. This is a paradox.

The intensity of gamma radiation varies inversely with the square of the distance from the source - if you move say, three times as far away from a gamma source you will receive one ninth as much radiation. This mathematical principle of the physical laws would not, of course, be of any help to the hapless pilot of the object - if the object had a pilot on board - because he would not be able to move far enough away from the radioactive source.

There is also the question of radiation exposure to Vickiee Landrum and her grandson Colby. Whilst Landrum did suffer some effects, her getting back into the car no doubt saved her from far more serious consequences had she remained outside the car with Betty Cash.

Even though Landrum lost some hair on her head, she seemed to have made a complete recovery from her experience. It was not revealed whether grandson Colby had any lasting effects from the accounts I have so far mentioned or whether the car was tested for residual radiation after the event *(author: particularly the radio that may have suffered electrical damage or the vehicle's electrical systems)* or whether investigators took soil and vegetation samples around the event site the following day to ascertain whether there had been any soil heating evidence or residual radiation. It seems remarkable the heat given off by the mysterious object was sufficient to melt the exposed dashboard of the auto and permanently etch Vickie Landrum's fingerprints in the dashboard where she had gripped it so tightly because of taking fright (according to the taped interview of the trio by USAF officers at the Bergstrom Air Base on the 17th August 1981). This kind of 'cooking' effect would have be enough to cause damage to exposed parts of the human body.

There are some strange parallels with the Rendlesham Forest incident (See Appendix 1) in the Cash/Landrum case. The first being the co-incidental date of both events being the same that I have mentioned earlier. The fact that in both cases large numbers of military type twin rotored helicopters were involved in an operation involving a very bright UFO is another. The shape of both the Rendlesham Forest object and the object seen by Cash, Landrum and grandson Colby were both broadly similar is yet another. That flames were emitted from both objects is another similarity.

A book primarily concerned with the Rendlesham Forest case [11] gives us even more insights into what happened to Betty Cash, Vickiee Landrum and Colby on their fateful encounter and it is repeated here *(author: note the detailed differences to the previous account).*

Colby spotted the strange aerial object as it seemed to target them. Betty Cash tried to drive away but the thing blocked their exit by hovering directly over the road in front of them. It was triangular in outline (actually a blunted diamond shape) and was straddled by a bank of blue lights. Periodically it would eject a short burst of flame from its underside directed towards the road surface, which it seared with its heat.

Betty is said to have stopped the car around 150 feet (45.7 metres) from the object. She was screaming with fright. Landrum told Colby to expect Jesus to step out of the fire, as she was sure that what they were witnessing was the end

of the world. Due to the heat, the car doors were thrown open and Colby started to cry. Landrum took him back inside the car. Cash remained outside the car fascinated by the object, silhouetted by the light streaming out from it. The skin under her wedding ring burnt fiercely *(author: microwave radiation?)*.

After a few minutes, at Landrum's insistence, Cash got back into the car, but she found it necessary to touch the car door using her leather coat as a glove because the metal had become too hot to touch with bare skin. The inside was so hot despite the normal outside air temperature being low (because it was mid-winter) that the car's air-conditioning had to be used.

When their eyes had recovered from the brilliant light emanating from the object, Cash started the car and they drove off. The object had now moved slowly over the treetops and was being surrounded by helicopters, which made a terrible noise seemingly flying in from several different directions. Betty Cash attempted to follow the object and its retinue of attendant helicopters. She mentioned that they looked dark and had no obvious markings. Some helicopters formed a ring round the object as though they were attempting to corral it. Other helicopters remained scattered. A number of them were large double rotor types, later identified by all the witnesses as Boeing CH-47 Chinook. They remember that one of these aircraft flew very low directly over the car at one time causing the vehicle to shake, terrifying Colby in particular.

Twenty minutes later both object and helicopters had gone and the trio made their way home. They were left with the distinct impression that the UFO had been in some kind of trouble and the helicopters were attempting to help it in some way. The authors point out that a similar 'helpful' type of approach was in evidence in the Rendlesham Forest incident.

After Cash dropped off Landrum and her grandson Colby, they were all experiencing violent headaches. Colby woke in the night and vomited over his bedclothes. When Landrum got up to tend to him she was horrified to see that both of them had red, sunburnt skin. Within two days their symptoms would subside despite both of them losing large amounts of hair, blisters around the eyes and poor sight for months. Both nausea and diarrhoea persisted occasionally for more than one year, but they kept out of hospital. However, Cash would not be so fortunate.

During that night her skin got redder and eventually blistered. She got very sick indeed and could not even take sips of water. Landrum collected Cash and

took her to her home to look after her, but three days later Cash would be rushed to hospital as an emergency patient. She would remain in intensive care for two weeks. She was treated as a burns *(face and hands)* victim because she did not tell them about the UFO because she was frightened that they would send her home and refuse to treat her. Colby would tell hospital staff a short while later that he knew what had caused her injuries.

Betty cash was released from hospital and unfortunately within ten days she was back in hospital suffering health reversals. Over a period of three years following the encounter she had five spells of hospitalisation together with a previous heart condition that eventually became aggravated. Landrum became fearful for Colby's long-term prospects because of the risk of leukaemia and other forms of cancer caused by exposure to ionising radiation.

However, the evidence seems to point to an exposure to very short wave radiation, such as microwaves, or a mix of very high frequencies. The burning sensation that Betty felt under the ring on her finger may be a significant clue to the mystery of the group's frightening encounter as it is known that microwaves will cause this type of burning sensation and effect within suitable ranges *(author: many readers will know that portable microwave generators have already been weaponised by the US military for hostile crowd control).*

Apparently, not only did the US Government deny the ownership of the object, they also denied ownership of the helicopters despite the fact that Betty Cash had positively identified the twin rotor Chinooks and importantly, had claimed that the legend 'United States Air Force' was on their sides. Finally, the authors take pains to point out that the UK Rendlesham Forest incident occurred near the USAF Base at (what was then) RAF Woodbridge which housed the Aerospace Rescue & Recovery Squadron. The Cash/Landrum incident was centred about ten miles (16 kilometres) north east of Houston - the home of NASA.

The three separate accounts I have given of the Cash/Landrum case broadly agree, apart from detail differences coming from the witnesses themselves, or from those who originally or subsequently reported the event. Whether Betty Cash, Vickiee Landrum and Colby did get exposed to some kind radiation from an alien craft is not known *(author: at least by most of us).* It is unlikely what

they saw was an alien craft being flight tested as there are far more less populated and secret areas in the US to fly such radically powered vehicles.

The fact that the case for damages was eventually thrown out by the courts on the basis that it was said that the USAF, US Army, US Navy nor NASA owned the object in question does not prove that someone is lying at high level. Instead it suggests these agencies may be telling the *literal truth* and the device was probably developed by one of the very many small high-tech industrial companies supplying the US Government under contract.

We must not forget that the US Government, scientists and engineers had dreamt of the almost limitless power that nuclear energy could give to manned flight and what that would in turn mean for the country that controlled such power. Shortly after the hubris of the dawn of the 'atomic age' and consequent resultant horror from the detonation of the nuclear bombs dropped on Nagasaki and Hiroshima, a contract was given to the Fairchild Corporation in 1946 to investigate the possibility of using nuclear energy to power aircraft. However, such was the interest in nuclear energy for flight, the US Atomic Energy Commission persuaded a group of MIT scientists to come up with their considered opinions whether or not such a power source was possible within known constraints. The Commission, known as the 'Lexington Project' concluded that using nuclear energy for flight was indeed possible and they put a price tag on such a development as being probably in excess of a billion dollars and with a fifteen year timeframe.

During 1949 and 1952 General Electric, Lockheed, Pratt & Whitney and others were involved in the development of a suitable gas turbine engine that could use the thermal output of a nuclear reactor. Following the cancellation of this project (known as P1) by the USAF in 1953 when the Pentagon apparently lost interest in the military application of the technology, General Electric decided to limit their expertise to developing and evaluating a reliable nuclear turbojet engine without the constraints of military involvement. That work went on throughout the 1950s and General Electric would be the first company to produce a nuclear reactor to power a turbojet engine. However, General Electric was not alone in that. Contemporaneously, Convair were keen to develop their systems and aircraft and flew their converted B36 bomber with an on-board nuclear reactor over largely uninhabited areas of the United States to test for radiation leakage and other potential hazards during 1955 to 1957.

Notwithstanding all the effort and dollar investment in the Aircraft Nuclear Propulsion programme (ANP), President Kennedy cancelled the Government funding of the project. On March 28th 1961 he announced that, "*Nearly 15 years and about one billion dollars have been devoted to the attempted development of a nuclear powered aircraft; but the possibility of achieving a militarily useful aircraft in the foreseeable future is still very remote*". Significantly perhaps (and predictably) General Electric disagreed on the basis that at the time of the cancellation there was no actual military requirement for the overall development of such a manned vehicle.

In hindsight, such an excuse for throwing away such a huge dollar investment on such a flimsy basis may seem to some as a truculent and rather silly decision even if the 'Cold War' threats and worries were evaporating following the Cuban missile standoff. Of course, it is unlikely that all the developmental and experimental work would just be 'thrown away' would it? I would suggest that the reverse is true and that development has continued apace with new nuclear systems no longer limited to the creation of wasteful, dangerous nuclear powered turbojet engines.

It may be significant that NASA had been carrying out experiments using solid core fission nuclear reactors during the period 1959 to 1972. These projects were reputedly cancelled due to fears over safety and the emergence of superior fusion technology being developed in parallel. However, the Pentagon was already heavily involved in the black project 'TIMBER WIND' ('TW', a new type of rocket engine utilising the thermo-nuclear principle in the already publicly known particle bed reactor technology unlike the solid reactor core in the 'NERVA' – **N**uclear **E**ngine for **R**ocket **V**ehicle **A**pplication from 1987 and up to the early 1990s) under the SDI programme - Strategic Defense Initiative - indicates that experiments using this technology had been under way for some time. The SAP TW *(Special Access Programme)* 'TW' largely became de-classified in 1992 at which time it was officially handed over to the US Air Force Phillips Laboratory due to the project being compromised, probably because it had become difficult to maintain secrecy when so many contractors had been hired to work on the various project elements.

However, the US Air Force would continue with **S**pace **N**uclear **T**hermal **P**ropulsion *(SNTP)* albeit, on much reduced publicly announced budgets than the generic predecessors of this exotic and dangerous technology. That may indicate continuing interest in portable, practical on-board nuclear power plants

for aircraft. It remains the Holy Grail of propulsionists whether they are incorporated in manned or un-manned vehicles. Interestingly, it seems that (SNTP as the name suggests) was envisioned only as a space based propulsion method due to the serious hazardous radiation with atmospheric launches or operation - even if that was remotely practical. It is possible that flight experiments were being conducted using 1st generation nuclear power plants during the first few months of 1980. Indeed, there are records to show that key NASA individuals had been in attendance at all the major TW review sessions and received the appropriate briefings on a monthly basis almost from day one that included...The DoE, (Dept. of Energy) Air Force (SDIO) and the various contractors that included Grumman Aerospace Corporation (makers of the Apollo Lunar lander).

Presumably, NASA's primary interest in attending was to discover spin-off benefits concerning the space based nuclear propulsion aspect of TW. If that was the case, then it may have been probable less attention would have been given to the devastating effects of radiation and any subsequent collateral damage - even though the particle bed reactor technology developed at the Brookhaven National Institute promised less irradiated ejecta from the engine due to the technologies involved in the hope that it would make the particle bed reactor more environmentally acceptable. A less desirous spin-off was that the exhaust gas temperature of the power plant at 3,000º Kelvin would exceed the exhaust gas temperatures of the solid core NERVA reactor by some 600º Kelvin.

(Author: According to NASA, some fuels used in the NERVA engine (uranium-carbide/zirconium-carbide or uranium oxide/tungsten) could produce very hot hydrogen exhausts in the region of 2550 – 2900^0 K almost in alignment with TW thermal output!)

It is clear that the nuclear principle for powering space based systems, prime power as well as auxiliary systems is here to stay and NASA consider it the only method available to us if we want to explore the outer reaches of our solar system or if we are to have permanently manned bases on our Moon or Mars. In that regard, NASA re-launched (no pun intended) 'Project Prometheus' in 2003 (formerly known as the 'Nuclear Systems Initiative').

Project Prometheus had grand ambitions and with the involvement of the US DoE (Department of Energy) NASA hoped to possess nuclear fission

reactors to survey and explore our deep space neighbours including in particular Jupiter's moons, Callisto, Ganymede and that moon of mystery, Europa. Estimates of launch dates put a start line of 2011 which has probably now slipped or been shelved. The proposed remarkably early start date of 2011 indicates the current level of nuclear engine technology and also the general confidence that has developed over the last few decades in the science.

One might be forgiven in thinking that all this technology is comparatively new, but the US had already successfully launched the first space based fission reactor during 1965. However, the current emphasis is on safety of operation and low risk to the environment as well as to the personnel who will use and maintain the equipment. Perhaps it is reasonable to assume that experiments in earlier times may have been more risky affairs.

NASA admits to possessing RPS (Radio-isotope Power Systems) for over thirty years that used small amounts of the plutonium 238 isotope to provide electricity by the process of natural nuclear decay, in order to power essential on-board equipment for their missions which of course included the manned Apollo lunar programme. These small RPS power sources are also used in satellite systems, particularly in defence critical applications.

Such small radioactive sources are not capable of polluting a planetary body with manmade radioactive sources…unlike a large fission reactor with a lot more fuel that will be used in deep space exploration vehicles or on manned bases. Presumably, an immediate leap to more exotic systems of power generation cannot be made before we have convinced ourselves that the nuclear option may not be the only one available? Why the rush?

The question is, were the trio in the Cash/Landrum case subjected to the radiation coming from a secret US Government contract? We will take a last look at this famous case...

When Betty Cash was questioned about the shape of the object at an official interview of the trio at Bergstrom AFB on 17th August 1981 as to the events of the previous year and their claim against the United States Air Force, she had said the object was 'diamond shaped'. However, in a statement she had made earlier she had said that she did not know what shape the object was, except it was huge and seemed to be at least as big as a water tower. Despite the fact that she had been the only one to get out of the car to take a better look at the object. Vikiee Landrum had been quite definite about the object's shape and said that it

was ‘oblong with a rounded top and a point at the bottom’. Seven-year old grandson Colby had been the only one to say the object had been categorically ‘diamond shaped’. Due to the amount of light, heat, and noise (of circling helicopters and the whooshing sound of the object as it rose and fell above them) it is no wonder that the witnesses remained uncertain of the physical outline of the object hovering in the sky.

The trio’s case against the US Government rested largely on the suffering caused to them both physically and mentally because of their ordeal and that they were convinced they had been exposed to some secret government device through no fault of their own. The immediate physical effects of the radiation they were exposed to has been well publicised i.e., skin lesions, blistering, painful eyes, hair loss, vomiting, diarrhoea, loss of appetite, memory loss and other equally distressing symptoms. Such conditions suggest much more than thermal radiation. However, the thermal effects on their vehicle may have been crucial forensic evidence to support their claim.

When Betty Cash decided that she wanted to get back into her 1980 Oldsmobile two-door Cutlass, she found the door handle was too hot to touch and she had to use the pocket of her leather coat on the handle. She also remembers that Vickie Landrum had left her fingerprints on the car’s dashboard when she had initially braked hard to avoid being directly underneath the object. At this point, they had not been exposed to the object for any great length of time and Betty said that Vickie’s fingerprints had presumably made such marks in the car’s dashboard because it had melted. This seems unlikely, as the temperatures required to melt a car’s dashboard would also have nasty effects on skin.

The car’s dashboard would have probably been made from at least two layers (and possibly more) of polymer. The first or top layer would have been PVC – Polyvinyl Chloride on a thick layer of polyurethane foam. Like most amorphous polymers, PVC has a fairly low melting point and it could have softened sufficiently to produce the effect Betty noticed, especially as Vickie would have grasped the dashboard instinctively and firmly. As a poor heat conductor, the thick foam layer would also not have conducted away much of the thermal energy absorbed by the PVC outer skin.

If the effects on the car had been solely thermal, a melted polymer dashboard would have been just one of many noticeable effects. The car’s

paintwork would have suffered physical damage especially in places where the thermal radiation had been focussed. Also, the fact that the car's engine had 'died' and yet the radio still played was odd. Assuming the object was a secret rocket powered device, it is known that exhaust gases can reach temperatures in the range of 1,200^{o} Kelvin for liquid fuel rockets and as high as 2,234^{o} Kelvin for solid propellants just aft of the jet efflux. With the car being around 130ft (approx 40 metres) away from the object and about 60 to 80ft below it (18-24 metres) even these temperatures, where iron melts at 1,260^{o} Kelvin, would not have been sufficient to cause the 'cooking' effects on the car and its occupants. Even project 'TIMBER WIND' using a thermal nuclear propulsion engine was designed to have an exhaust temperature of around 3,000^{o} Kelvin – not that much more than the temperature of solid fuel rocket exhausts. This suggests that other types of radiation were present, perhaps across the whole EM Spectrum - ionising radiation, UV, X-Rays and microwaves. In the event, the car would have been a pivotal piece of evidence to support the claim for damages.

Betty Cash had been unable to say how far away from the object the helicopters had been. Clearly, they had been as near to the object as they deemed it was safe to be. Not all of the witnesses agreed in detail about the helicopters apart from a consensus that there had been about twenty-three in the air around them because they had counted them and they appeared to be either escorting the object or shepherding it. Whilst it was agreed that not all of the helicopters had been twin rotor types and some had been conventional looking helicopters, they disagreed on whether they had identifying markings or decals on the airframe.

Betty had been quite adamant that she had seen the legend, 'United States Air Force' emblazoned on the helicopter fuselages, but Vickie Landrum was specific in saying that she could not substantiate that as she had been too busy looking after grandson Colby at the time. All she had noticed was the twin rotors. Vickie would later testify at the Bergstrom AFB meeting, that she had spoken to a National Guardsman on the eve of a National Guard parade soon after her experience with the object. In casual conversation, he had told her that the Montgomery Sheriff's Department had called out the National Guard on the night of 29th December 1980. However, he would later change his mind as someone in the National Guard had persuaded him that he was in error. This important thread may not have been followed up.

Finally, the USAF denied that they had any CH-47 Chinooks in service at, or about the time the incident occurred. A trawl of the Web seems to verify their claim (unless someone knows differently). If the mysterious object was a secret Government project that got into difficulties on a test flight and had to land quickly, it is reasonable to speculate that the pilot or remote controller would seek a good surface on which to land the crippled vehicle. Where better than a level, flat and deserted country road?

Unfortunately, no account was taken of potential witnesses who would turn out to be in the wrong place… and at the wrong time. The other solution could of course have been that the object seen in Rendlesham Forest and the object seen by Betty Cash, Vickiee Landrum and grandson Colby *may have been one and the same.*

However, there is a totally different take on this incident. In their 2005 book 'Exempt from Disclosure' by Robert M Collins and Richard C Doty (Collins a former USAF Captain and Doty a Special Agent who was assigned to AFOSI – Air Force Office of Special Investigations) Collins makes the claim that the object seen by the unfortunate trio was a primitive attempt by the US Government to fast track a propulsive system that would equip the US with the technology to explore deep space. Unfortunately, they claimed the 'anti-gravity' technology did not live up to expectations and was flawed...demonstrably so it seems if they are right. Collins and Doty maintained that the accompanying Chinooks Betty Cash mentioned carried troops that could quickly seal off any forced landing area if the human piloted craft came down.

To muddy the waters even further, there have been claims that what the trio witnessed was a human piloted test flight associated with 'Project Snowbird'. It was said that 'Project Snowbird' was a Top Secret US Government programme to test fly recovered alien spaceships obviously with a view to understanding how they worked and if they could be re-created or improved.

In Canada a similar project titled, 'Project Magnet' was also purported to exist at the time. Along with US Projects, 'Pounce, Pluto and Plato'* which were purportedly established from around 1947 to 1968 and beyond, it soon becomes evident that getting deeper into this kind of UFO lore does not serve to clarify matters – it just creates a rat's maze of claims and counter claims with the constant suspicion concerning clumsy official attempts at manipulating the facts or disseminating lies.

*Project Pounce and Project Pluto was said to have been established in 1947 after the Roswell Incident to evaluate captured data on alien technology. Project Plato was said to be concerned with the development of diplomatic relations with aliens and it is thought it was established around 1960.

At this distance in time from the original Rover/NERVA program and the succession of the various nuclear reactors made and tested through the 1960's and beyond, it will be difficult to assign blame to any particular reactor configuration amongst the twenty or so designs made and tested from that period. Perhaps there was an accident? A problem caused by disastrously faulty flight control systems leaking ionising radiation from an ineffective exhaust scrubber? Or, could there have been a failure in the command/control systems of an unmanned test flight? If the flight was piloted, could there have been severe technical problems with radiation shield failure thereby causing the immediate need for a dramatic reduction in engine output?

Until someone who was officially involved in the incident tells the real story, it seems that the jury will remain firmly out. It seems clear the US Government does have a case to answer - despite all the denials and the judgement of the courts together with the confusion and obfuscation that followed - if natural justice is to prevail.

Chapter Four

Aerial Technology - Part II

On the 22nd March 1989 the London Evening Standard newspaper printed a story about a UFO seen by aircrew and passengers aboard the inaugural flight of a British Island Airways Lockheed Tri-Star airliner on its way back from Malta to Gatwick Airport. The aircraft was over Sardinia and at about 7pm captain Bob Taylor, saw multi-coloured bright lights flash past the windows of his jet. He immediately thought it was another aircraft but changed his mind when the object re-appeared in a 'blaze of colour'.

Some minutes later, the aircraft suddenly lost altitude in two sudden jolts and due to the violence of the aircraft's fall some passengers hit their heads on the roof of the jet. Passenger, Susie Walton told reporter Peter Woolrich that the experience was terrifying but she remembers the lights on the UFO being pretty, “It was like a bright, glistening cloud with lots of colours and left behind a trail of smoke...the pilot said there was nothing in the manual about how to deal with a UFO sighting”.

The following day theories as to what the object might have been were discussed. Captain Taylor dismissed the idea that the object may have been a missile or a satellite being launched as his aircraft was nowhere near a launch site and in any case he would have been pre-warned for safety reasons if the object had been the result of a launch. Interviewed on Independent Radio News he admitted that he had never seen anything like it before and he felt there had been no danger to his aircraft or passengers. He admitted that nobody will ever know what the object actually was and that they might have seen a UFO. Interestingly, several other aircraft in the vicinity of the Tri-Star also reported sighting the object.

That sighting was one of many being regularly reported by professional pilots and aircrew. Some pilots will never see anything strange other than natural phenomenon throughout their entire flying careers, but there is little doubt that when something unusual happens it leaves a lasting impression. Perhaps not all strange flying objects are altogether alien?

On the 1st May 1994 The Sunday Times ran an article on a radical new aircraft design that uses a lifting body (misnamed flying saucer) being developed by the Russians called 'Ekip'. The aircraft has what is called 'two mode' jet engines, one of which provides forward propulsion and another system which forces high velocity air over the aircraft's back to provide the negative pressure required for lift.

The Russians successfully tested a small version of about 2.7 metres wide (9 feet) and at the time of the Sunday Times article had almost completed another version 15 metres wide, 11 metres long (49 feet by 36 feet). This version is said to weigh five tons and be able to carry a load of almost two tons. If flight tests of this version go well, the Russians intended to start production of Ekip L3, a manned 'flying saucer' it will measure 36 metres by 25 metres (118 feet by 82 feet). The design will incorporate a partly see-through airframe and transport up to four hundred passengers or forty tons of cargo at airspeeds up to 400 miles per hour (643.6 kilometres per hour) operating at a maximum altitude of 36,000 feet (10,973 metres) with a range of 5,000 miles (8,045 kilometres).

In flight this strange machine might look more like a UFO to a casual observer than most everything else flying. However, the Sunday Times article commented that it might never come about due to the parlous state of Russia's industry and general infrastructure. There must also be serious doubts about their ability to obtain or develop the necessary computerisation and software that will allow them to fly tricky ‘fly by wire’ minimalistic un-aerodynamic designs. Much in the same way that the Lockheed F117 Stealth fighter *(nicknamed the wobbly goblin)* uses advanced avionics to keep it in the air. Inspiration for the Russian Ekip L3 may have come indirectly from captured Nazi designs after WW2.

The Lockheed Martin Skunk Works partnership with Boeing/Rocketdyne, BFGoodrich, Sverdrup and AlliedSignal set out to build a technology demonstrator called the X-33 to prove the technology and produce a single-stage-to-orbit launch vehicle called 'Venture Star' also is a 'lifting body' design. However, its size of 69.26 feet long (21.11 metres) and a width of 76.76 feet (23.4 metres) makes it much larger that the Ekip L3. The Venture Star was designed to operate at a different technology level as a quick turnaround re-usable space vehicle for both commercial and government purposes unlike the Russian project which has more modest aims. Unfortunately, Venture Star is not now being developed and has been shelved.

According to Lockheed, the Venture Star would have had a takeoff thrust of 350,000 pounds and a maximum speed of Mach 13+ (over 13 times the speed of sound, around 9,643 mph or 15,509 kilometres an hour) these kinds of speeds may only occur in the Earth's upper atmosphere to minimise the heating effects of such high velocities. Anyone seeing this craft flying (or on the ground) may think they have seen a UFO.

Not all UFOs are circular, elliptical or boomerang shaped. Unidentified flying triangles have been seen all over the world, and in case you are thinking stealth aircraft, many reports pre-date any kind of stealth aviation. Whilst the 'modern' wave of sightings are thought to have dated from about 1983 when flying triangles were seen over the Eastern US, reports from that celebrated UFO hotspot Puerto Rico, stem from about 1967 when students from a school noticed a triangular shaped object above a nearby mountain. Later cases of triangular objects seen over the island included cases where the Air National Guard would become involved chasing objects calculated to be 1.5 miles wide! This particular object was caught on radar at an altitude of around 70,000 feet (21,336 metres).

Even stranger and more disturbing events were to follow when two US Navy jets (thought to be McDonnell Douglas F14 'Tomcats) would apparently be 'swallowed' by a huge triangular UFO in mid air when it was being pursued by them on the evening of 28th December 1988. Aside from these serious and dramatic events involving triangular UFOs, there were also sightings in which witnesses claimed to have seen triangular shaped objects going into and coming out of the sea around the island. As we shall see, that kind of behaviour is not confined to Puerto Rico.

The Belgians experienced their own UFO flap during November 1989 and March 1990 [12] when, on three different occasions an unidentified object was detected by Belgian and German radars over the eastern Province of Liege. Apparently, from a letter signed by Leo Delcroix (Defence minister of the time) this behaviour from UFOs was not an isolated incident and formed a pattern of increasing regularity. On the third occasion the object was reputed to have been witnessed by around 13,500 people but the Defence minister was quick to point out that it had not been possible to perform any correlation between eyewitness accounts and radar detection.

The Belgian Air Force was alerted on two occasions and F16 jets were scrambled on the 15th and 16th December 1989. The first time it was claimed that pilots neither eyeballed any strange object nor did their radars detect anything. On the second occasion it was somewhat prosaically concluded that the object resulted from the use of a laser projected image as a result of a Belgian disco. However, the Belgian minister went further and pointed out that it had been concluded that AWACS aircraft (Airborne Warning & Control System), a Lockheed Martin F117 Stealth fighter, teleguided military machines or ultra light motorised airplanes were also not responsible for the flap.

Fortunately for all concerned, when one pursuit by a Belgian McDonnell Douglas F16s chased a triangular object to within six minutes of UK air space at speeds of up to 1,000 knots (around 1,150 mph) it turned away. It appears there was some defence implications for the UK our defence systems did not respond for reasons which I have to say remain unclear and embarrassing for them. A rather tongue in cheek report in the Financial Times of 18th April 1990 titled, 'Flying Triangle has Belgians going round in circles' captured the mood:

"*The Belgian air force has been on alert for three nights running, writes Lucy Kellaway. Two Hawker Siddeley aircraft equipped with infrared cameras and sophisticated electronic sensors have been patrolling the skies. Down below, the Belgian police force has kept a constant watch, helped by more than 1,000 concerned civilians. Along the border with Germany, 20 lookout posts have been set up. Their target: an Unidentified Flying Object. Since December, there have been 800 reported sightings, and even though quote, 'some resemble a lamp post more closely than a UFO', many of the others are being earnestly examined by SOBEPS, the Belgian Society for Studying Spatial Phenomena. More surprising is how seriously the army is taking the whole thing. For the time being it says it is viewing the matter as a "technical curiosity", as the intruder has shown no aggressive signs. Should it turn nasty, it will be a different matter altogether. The Easter operation was meant to be a world first, a confrontation between earth-bound defence forces and a UFO. The world's television crews camped out on a chilly Ardennes airfield to get the first pictures. But the event made rather poor viewing. Several times the UFO was "seen" from the ground, but each time the aircraft got there too late, in one case missing the mystery intruder by just three minutes. To make matters worse, the cloud was low, the weather change-able, and the UFO tended to hover just above the rooftops, too low to be confronted by an aircraft. The pilots, sworn to secrecy until the Defence Ministry has had time to watch the video evidence,*

seemed to have little to report, and could not confirm rumours of all kinds of irregular blips on their radars.

Far from declaring the operation a failure, the UFO-obsessed Belgian media appear more convinced than ever that there is something odd hovering over the peaceful countryside of Wallonia. Scientists on the ground appear in the past few days to have produced a clear image of the object, which is said to correspond to the reports of eyewitnesses. It is a triangle 30m to 50m in diameter, with red, green and white lights at the corners, 10 times brighter than any star. It has a convex underbelly and makes a sharp whistling noise. Belgium may not quite have found its UFO. But it has found a nice new use for its air force now that its services are needed less and less by earthlings! "

Flying triangles seem to appear over every country in the world. In 1991/2 they were seen over Japan, in the previous year they were sighted over Russia and then began appearing over the US. In the UK sightings became particularly numerous, strangely you might think, as being centred on the Derbyshire area - the centre of gravity in Britain. That area of the UK recorded some fifty-two incidents during December 1994 to May 1995.

These strange triangular UFOs do not behave like conventional aircraft and seem unaffected by normal aerodynamic forces. They can hover motionless, travel low and silently at very low speeds of 25 miles an hour (just over 40 kilometres an hour) then accelerate to around 650 miles an hour (1,046 kilometres an hour) within a few seconds.

They can travel point first - as in conventional delta designs - or travel forwards trailing edge first. Something that is physically impossible for our delta-winged aircraft. Sometimes they have been heard to emit a low hum. They can be of huge proportions e.g., the size of two football fields put together, or quite small only a few feet or metres across their widest part. Some are said to have cupolas on their topmost part and are illuminated by bright lights on each corner, some have a centre light as well.

They are regularly seen hovering over nuclear power plants, arterial roads, traffic intersections and highly populated areas. Often, they will 'fire' light beams to the ground which sometimes appear to stop in mid-air not reaching the ground. The purpose of these light beams is not understood. Researchers who have made a particular study of these strange flying triangles have determined that the incidence of sightings over the nuclear power stations of Bradwell

(Essex) and Sizewell (Suffolk) during the period 1995 to 1996 have increased from 58 to 89 and 65 to 151 respectively which represented an increase of 185%! UK investigators believe they may have identified an undersea 'nest' of these objects off the Eastern coast around the Lowestoft area as triangular objects have been seen going in and out of the sea since 1995. Strange unidentified underwater lights have also been seen moving under the sea by local fishermen. As an aside, it is interesting that the site of the Rendlesham Forest incident, RAF Bentwaters/Woodbridge (now de-commissioned) is only some 30 miles (48 kilometres) south of Lowestoft.

The pre-occupation with nuclear plants is not confined to triangular UFOs though. Since the 1940s the US had disks hovering over or hovering near nuclear plants, seemingly inquisitive about our technology. Sometimes, disks have managed to shut down security alarms and communications systems as well as more seriously...disabling launch codes. Whether that was by design or accident is unknown but there has been some suspicion that the disks have been more interested in the electricity produced by these plants than the means by which it has been produced.

On the 18th August 1989 at 3pm in the afternoon, an object described by a retired security guard as being a large triangular reddish brown UFO was seen travelling pointed end first at about an estimated 300 feet altitude (91.4 metres) over the McGuire Nuclear plant at Lake Norman, North Carolina. The guard said that he thought the object was about the size of a stealth bomber but it was only in sight for a few seconds. Unlike the Northrop B2 bomber*, the object was totally silent. (*The Northrop B2 Stealth bomber had its inaugural flight on 17th July 1989 out of Palmdale, California).

Paul R Hill was a NASA scientist who spent most of his life in the field of aeronautics and research. With an impressive C.V spanning over 30 years with NACA (National Advisory Committee for Aeronautics) and NASA (National Aeronautics and Space Administration) working in the Physical Research Division, Pilotless Aircraft Research Division and the Applied Materials and Physics Division, as well as being a Professor of Aeronautics for 3 years at Polytechnic College of Engineering, Oakland, California. He was well placed to perform a detailed analysis of what was known about the UFO problem using hardcore science as an analytical tool.

While he was at NASA he became an unofficial 'clearing house' for the many UFO sightings that came his way. Whilst he was quick to point out that such analysis in no way reflected official NASA policy, he attempted to make sense of the UFO using known deductive scientific methods to explain sightings and physical effects. He had his own sighting of a UFO in the early 1950s which no doubt provided the impetus to stimulate his considerable scientific curiosity.

After his death in 1990, his scientific study was published [13] which represented about 16 years of work. This important book provides many insightful revelations in which Hill proves, deductively, that UFOs do not violate universal physical laws, but rather use technology with which we have no experience of as yet.

Bob Lazar [25] had maintained the on-board alien reactor he worked on at S4 (Groom Lake) was designed to produce focussed streams of anti-matter onto a gaseous target, thereby producing prodigious amounts of electrical power as a result of a total annihilation process, Hill pointed out that the process by which antiprotons and antineutrons may form a nucleus surrounded by positrons, thus forming an anti-atom, has never been observed.

However, Hill comments that the annihilation process of positrons and electrons have been observed in high energy physics laboratories in which electrical energy is produced equivalent to 1 Mev (million electron volts) from 1.8×10^{-30} kilograms of mass, which is an extremely small amount of matter.

There seems to be other solutions to UFO drive systems waiting to be uncovered. Some UFOs leave landing traces, marks in the ground which subsequent analysis indicates that some craft are very heavy indeed - perhaps a 30 feet diameter disk (approximately 9 metres) can weigh in at around 30 or more tonnes. These objects appear to lift off the ground slowly at first and then accelerate to enormous speeds when they need to. Such accelerations are in excess of 100g and would not only crush conventional occupants, but would also affect the structural integrity of the craft. This had led some scientists and researchers to propose that there is some kind of mass control system at work in the UFO's systems to get around the obvious problems.

Most mass control ideas stem from Einstein's theories concerning General Relativity in which he relates local inertial mass to the total mass of the Universe. It follows that if a local gravity shield could be formed around local

objects, the inertial mass of that object would be zero. The implications of which are obvious. Unfortunately, no experimental data has been forthcoming...until now.

There were reports that NASA at the Marshall Space Flight Centre in Huntsville, Alabama became interested in a rumour that a Russian scientist, Dr Eugene Podkletnov had developed a device with which he had successfully blocked the effect of gravity by about 2%. NASA was thought to have attempted to duplicate Podkletnov's experiments unsuccessfully, finally inviting the Russian scientist to their Marshall Space Flight Centre on 7th May 1998. NASA's Ron Koczor, Associate Director of the Space Flight Laboratory is reported to have commented, "*Ten years ago, physicists would have said this stuff is Star Trek...impossible to do, but if Eugene's work can be duplicated independently, this will change totally how the world does business...*".

I wrote to NASA during the preparation of this book asking about their progress and they replied three months later saying that they had outsourced a project to duplicate Podkletnov's experiment and had asked him to act as project consultant. Assembly and testing of this Phase II Small Business Innovative Research contract experiment was scheduled to take place in autumn 2000. It's predictable that NASA would be naturally cagey about making any conclusions on Podkletnov's gravity shielding claims until the results are in, but if the experiment works and can be easily duplicated or even enhanced, the implications could be immense. It is understood that the project has now been abandoned or gone 'black' – i.e., secret.

There are substantial rumours that humankind may be in possession of crashed or downed alien vessels – wrecked or even still operational. Whether these crafts from other worlds and alien civilizations can be reverse engineered and duplicated or why the possessors of such incredible secrets would want to test fly them in areas where they might be seen, should be subject to a great deal of scepticism. However, it seems clear that considerable effort would be made to adapt alien technical assets using *human manufacture and design methods* rather than attempt to reverse engineer totally foreign principles - but first you have to understand how things work.

So called, 'anti-gravity' drives (probably more correctly called gravity 'phase-shift' drives) would only work within the confines of a planetary environment where there is a massive gravitational system than your 'on-board'

motive power generator. In deep space you would require altogether more powerful and reactive drive systems – probably nuclear based. Small ‘phase-shift’ gravitational system vessels whilst interesting, would not give us interstellar freedom or translate seamlessly into our general transport and cultural requirements. Would we be given any more knowledge from the owners of these vessels? It is unlikely...We are still very much serving a galactic apprenticeship and have yet to prove ourselves fit to hold such power. Human development in the past has been influenced by inventors/developers, enterprise, industry and conflict. Sometimes, serendipity plays a part but possessing a few crashed alien vessels may only currently provide an acquisitive thirst for the promise of even more powerful exotics – it cannot advance us as a race. We may just have to find our own solutions to problems as the price of joining the galactic club.

Chapter Five

The Futurists

A futurist is listed in the Chambers Dictionary as being, '.... a person whose chief interests are in what is to come, a believer in futurism....' which is a handier entomology than calling someone more definitively, 'a futurologist' so I will refer to futurologists as futurists which seems less clumsy...

Futurists are important people - and increasingly so. Companies who can afford these specialists may find them essential to their economic well being if they can successfully predict events that will impinge upon a company's financial profitability in the future. This is, of course, notoriously difficult, and some predictions are rarely attempted with any great seriousness or commitment i.e., financial market trends, political climate etc...There are just too many variables. But, having said that, futurists can indicate where we are heading and some of it is not all good news.

People have always been talking about the future, planning for the future and of course, trying to predict the future. Dr Lawrence R Hafstad wrote a remarkably succinct analysis of how technological futures could be determined for Science Journal as long ago as 1966. Dr Hafstad was at the time Vice President in charge of the Research Laboratories and the Defense Research Laboratories of General Motors Corporation. In 1966 he was Chairman of the General Advisory Committee for the US Atomic Energy Commission and a member of the United States Defense Science Board.

In his article (which unfortunately too long to reproduce here) he reminds us that between 80% and 90% of all scientists whom have ever lived were alive in 1966 and therefore half of what we have learned about nature has been determined since **1950** *(author emphasis)*. He emphasised that the transfer of science to technology was probably the most important aspect of growth to an economy that had worked out a way of distributing new scientific methodologies to an industrial base without constraints caused by manpower and money.

What has this got to do with the integration of alien technologies into our science-based technologies you might say? I think what Dr Hafstad's main

premise was based on was a vision of human networked systems, education and information based. Hafstad reminds us in his 1966 article, "*...the most important transfer mechanism for transferring science into technology is by commercial R&D...*"

In his Paper Dr Hafstad maintained that the United States technological effort that includes nearly three quarters of all R&D (together with government sponsored activities) is performed by approximately 14,000 private companies. In 1966 that technology-based industrial effort represented a bill of around US$15,000 million annually - a very large sum of money even today. He added that around 95% of that research was strictly related to applied science for civilian technology to military and space technologies.

He quotes Philosopher Alfred North Whitehead who in his 'Science and the Modern World' who said, "*The greatest invention of the 19th century is the invention of the method of invention".* That methodology provided a system by which a bridge was built between scientific ideas and the ultimate product without waiting for the occasional genius or lucky thought. Whitehead thought that this method represented a graduation from amateur to professional. Dr Hafstad also said that a disciplined approach was needed to solve the many complex problems associated with modern technology, and proposed a solution where many different and highly specialized skills would be used to solve scientific and engineering problems. He reminds us that before 1900 discovery and invention were widely separated - the telephone for instance was developed around 50 years after the fundamental principles were known.

Today (that was in 1966) the invention, engineering and application of new technologies come closer to the basic discoveries in science which made them possible quote: *'The transistor is a widely cited example of such a product'* (author emphasis - see Appendix 1 fig 1). The logical approach to the way new scientific methods, inventions, R&D, development and commercial exploitation remains a basic and credible system for dealing with large (or potentially large) projects that may have considerable commercial and economic impact within a large commercial or government sponsored enterprise. Smaller companies have much leaner times and I am not sure if his model still holds good.

In the UK one such recent enterprise was the [15] IRC (University of London Interdisciplinary Research Centre), which is designed to deliver tangible benefits, which emanate from biomaterial research within the UK. Together

with a new partnership body, The Biomaterials Partnership, the UK intended to cash in on the expanding market of biomaterial medical research by providing a forum for new ideas and innovation.

If, as Colonel Corso says, alien technologies were linked seamlessly into existing technologies i.e., fibre optics, lasers and the transistor it would represent an industrial conspiracy of monumental and unprecedented proportions involving the silencing of many scientists, engineers and developers at all levels - some of them must have known what was going on? One can only speculate on the kinds of draconian sanctions that a democratic government would be prepared to exert on participants to maintain silence. Corso's claim also implies that no science to technology infrastructure was in place in the late 1940s, clearly at variance with US developments like the atomic bomb. There also remains the outstanding question of who actually owned the crashed object at Roswell. We would have learned a lot more about *all* technologies, biological, chemistry, physics etc... Not just about lasers and hardware that could be used by the military...the alien knowledge that we would have acquired would have been a very rich harvest indeed even if we didn't understand it all at the time.

Hafstad's logical argument also holds good for the case of [15] Bob Lazar (which I related in 'The Alien Intent') who claimed he was employed by the US Government to back engineer the power plant of an alien disk at S4 (Groom Lake - Area 51 Complex). Using Hafstad's argument for co-operative liaison between scientists and engineers makes Lazar's account even more incredible when he told us that he was expected to carry out his task armed with not much more than a multimeter and screwdriver...and in almost perfect isolation! Equally, one has to say it seems incredibly unlikely that any ET race that is capable of interplanetary or interstellar travel would use technologies only about a couple of decades or less from our grasp.

They are more likely to use systems or materials totally unknown to us whilst remaining broadly within the laws of Nature. The Roswell craft was reported to use *almost known* technologies i.e., fibre optics, lasers, transistors and impervious wafer thin metal as well as an airframe that was obviously aerodynamic, which is unusual when you consider contemporaneous sightings listed craft not relying on aerodynamic principles for flight. If it was not for the reported alien bodies at the Roswell crash site, you could be forgiven to think that the event was staged for effect.

The Roswell affair seems to point to established alien co-operation with US aerospace developers, not an isolated alien 'mistake' leading to a crash of one of their craft. The report that only alien beings were on board could have easily been as a result of their specialized application and knowledge/physiology - not as a result of their ownership of the vehicle.

The application of science into technology has been going on for a long time and radical procedures have been carried out for thousands of years. But it was not until mankind understood and harnessed electrical energy that real progress would be made. For instance, staying in 1966, a miniature radio telemetry system was developed in the US small enough to be fitted into a patient's mouth to monitor occlusal problems thereby highlighting early problems that might result in a patient losing a tooth unnecessarily.

The device was small enough to fit into a bridge across a lost tooth and was activated by a metal filling in an opposite tooth. Cleverly, the device operated on three frequencies, and the position of the tooth depended on what frequency the transmitter operated. Also in 1966, Henry Lymark of the Research Institute of The Swedish National Defence and Bo Klasson at the prosthesis laboratory of the Norrbacka Institute constructed a new arm prosthesis that had five agile fingers operating on electric impulses. This prosthesis was in advance of other systems as it had jointed fingers, not the more common grip mechanism.

Coming more up to date: In 1998 a team of scientists in Emory University in Atlanta US, developed a system where electrode brain implants (see Appendix 1) could be used by severely disabled people to move a cursor on a computer screen just by 'thinking' it. Clearly, this has implications for an improved quality of life even though the patient can be almost totally paralysed.

The implants are about the size of the tip of a ballpoint pen made from hollow glass cones which have been covered in chemicals extracted from the patient's knees which fool the body's defence system into not recognising the implants as foreign objects and therefore rejecting them. Within a short time, nerve cells grow into the cones and attach themselves to electrodes within the cones.

They are surgically implanted in the patient's brain motor cortex system that controls body movement. Signals generated from the nerve link to a transceiver and thence to a computer after amplification. Surgeons implant the cones in the

most active parts of the patient's brain and patients just have to think about moving a different part of their bodies to achieve the desired effect.

Patients are able to learn how to operate the system by being asked to think about moving a part of their body, presumably using undamaged existing neural pathways. Training involves listening to a buzzer that alters in signal strength and cyclic rate when they are thinking 'correctly' to operate the computer's cursor on their selected icon. Clearly, this application, once proved reliable, could have enormous implications both commercially and militarily.

Dr Peter Cochrane, Head of Research at British Telecom (BT) Complex Systems Laboratories at Martlesham, Suffolk enthuses about the continuing interlink between man and electronics - the possibilities being almost limitless. Together with various selected partnership ventures with UK's DERA* (Defence Evaluation Research Authority) BT carries out its own research on leading edge electronic/man interfaces.

*Re-branded as QinetiQ & DSTL Defence Science and Technology Laboratory from 2001.

One such BT project involves work at their [16] Glasgow Lab. where lowly slugs and other invertebrates have had electronic devices connected to individual neuron cells. Amongst other projects currently being undertaken, BT hopes to produce an integrated memory chip that would extract incoming eyesight data and store it in digital form in computer memory. Bruce Allen MD FRCS, Consultant Ophthalmic Surgeon, Moor fields Eye Hospital, London confirmed in 1999 that *'The eye is a natural target for tissue engineering research.... 3% of the NHS budget i.e., 1.33 billion is spent on ophthalmic disease...'* That indicates research is being undertaken in the UK on the emerging bio/electronic human interface and the more established co-operative link between the biological, chemical and engineering disciplines.

However, some UK scientists make more practical approaches to the bio/electronic interface problem, and Professor Kevin Warwick is such a man. At the time of writing Professor Warwick headed up the Department of Cybernetics at Reading University with a principle interest in robotics and intelligent machines. In order to prove a point, he had a transponder implanted in his arm that he could use to open a door as he approached it, no doubt causing much amusement to his undergraduates.

I contacted him [17] in late 1998 asking him for his comments on reputed alien implants, and whilst he kept an open mind on the subject, at the time he legitimately pointed out that one of the major problems was concerned with identifying a suitable power supply for the implant (his own implant had a remote power source). An implant that also includes a power supply does, of course, pre-suppose an active role for the implant and not a passive one. But it appears that the few alien devices recovered have no active role - which means that they must somehow operate passively - we shall return to this later.

However, as I mentioned in the Prologue to this book, the new tool of scanning tunnelling microscope technology has provided us with the ability to produce a working battery, a hundred of which would fit into one human blood cell! Professor Warwick may now have his power source.

On the 13th April 2000, the EU's (European Union) Research Commissioner, Philippe Busquin briefed the press on several biomaterials projects that have made significant advances in new medical technologies. Two projects are involved in developing materials that will help the body to repair itself. Biodegradable 'scaffolds' will allow the body's tissues to grow back over a severe burn or a chronic ulcer, or even a bone to allow it to re-generate itself. Another groundbreaking project involves developing what is known as 'bio-hybrid' organs, which it is hoped will eventually replace human organs such as a liver or a kidney inside the body [16].

These are practical applications of new scientific methods and discoveries and the acceleration of the transfer of science into practical applications gathers apace daily. The global network provided by the Internet is, and will play an important part in the dissemination of information and ideas. However, there is no evidence extant that the visitors have acted, or want to act, as facilitators.

Tissue engineering has been around for a little while now but to all purposes it is still an emerging technology [16]. Tissue Engineered Medical Products (TEMPS) are used to replace or restore function to diseased hard or soft tissues. Biocompatible and bio absorbable synthetic polymers are used and can be moulded in flat, curved or in complex shapes (an ear for instance). Once made, the TEMP is placed in a tissue culture vessel that is then cultured (grown) with the particular tissue cell type. The specialised human cells e.g., an ear, then bind to the TEMP scaffold and multiply eventually growing into the desired tissue.

TEMPS under development include, cartilage/ligaments, heart valves, liver tissue, insulin producing pancreatic islet cells... Cells engineered this way are usually of human origin, but the same approach can be made to animal cells. It is known that the human use of animal cells carries some risk of a number of adverse immunological responses, particularly with the discovery of endemic porcine retroviruses some of which could infect humans with negative results.

All the exciting medical advances are mostly within our grasp now. The mapping of the human genome will open up even more exciting areas of research with the possibility of ultimately defeating some of man's most formidable foes such as cancer, AIDS and inherited diseases. However, there are many hurdles yet to overcome with moral and ethical arguments becoming more important as possibilities become more available as well as the cost factoring that will inevitably occur in therapeutic treatments.

The 21st Century science of Complex Systems amongst other things, postulates that to orchestrate the activity of the 100,000 genes in the human genome in order to generate the 250 known cell types representing 250 individual patterns of gene activity, requires an enormous number of activity states and equates to an even larger number than all the number of hydrogen atoms in the Universe!

Stuart Kaufmann of the University of Pennsylvania had the intuitive idea that this kind of system could be explained as being a type of parallel processing network where the network examines signals coming from connections with other sources. Therefore, the signal will either be on or off according to the rules of engagement - a 'Boolean' * logical system.

*(A Boolean system is a mathematical, logical and symbolic system which is basic to the design of modern digital system circuitry - attributed to mathematician George S Boole 1815-1864).

Eventually, the network will hit upon a condition where the network will run through all possible working states and eventually it will reach a state where states become repeated. This is known as a 'state cycle' and Kauffman reminds us that it operates as an 'attractor' in the system of complex system dynamics and is likely to have many such 'attractors' in the network at any one time. He thinks that this explanation describes the workings of the human genome far better than the accepted natural selection process.

Despite the promises which science gives us, we may still not make it because of either what we have done to our planet to get where we are or because of some accident outside our present control e.g., a collision with an Earth crossing asteroid or some other celestial event, or the omnipresent threat of nuclear or biological extinction. According to the Futurists [4] even without a catastrophic collision all Earth's people collectively face some severe tests in the years to come. Global warming continues to exercise the minds of scientists as to how human activities can be reduced to slow down the production of CO_2 carbon dioxide, the main greenhouse gas together with CH_4 methane, another major greenhouse gas, N_2O nitrous oxide, mainly from combustion exhausts, CFC chlorofluorocarbons and ozone depletion plus other severe environmental issues, like de-forestation, water shortage etc...All contributing to the problems we shall collectively face in the near future if the predictions are correct.

It is interesting to note that some scientists still do not agree on the overall contribution each greenhouse gas adds to the problem of man-made global warming. Whilst it is agreed that CO_2 largely causes the global warming effect, some governments blame the motor car, jet aircraft etc... Others lay the blame on increased burning of fossil fuels, deforestation and rather quaintly - animal respiration and flatus. Ruminant animals get the major blame for the next big greenhouse gas contributor, methane along with rice paddies, gas leaks, termites and mining activities in spite of the simple maxim that what ‘goes up must come down’!

In 1992 most countries signed up to the framework convention on climate change in Rio de Janeiro - which seemed impossible to achieve. It has been calculated that energy requirements in 2010 will incur at least 35% more fossil fuel being burned than was consumed in 1996. That projection is unlikely to be very accurate and a more pessimistic approach should be adopted to account for the expansion of the Chinese, Indian and Brazilian economies both in manufacturing and consumption. Targets for the elimination of greenhouse gas limitations have slipped or failed on the basis that the targets agreed were far too ambitious and the economies of the developed nations would suffer badly as a result. Clearly, the political currency to help the world’s poor was too high a price. Even in this global issue of high magnitude, it seems our visitors do not have a view on this catastrophe waiting to happen - there are no reports of concern for our welfare...rich or poor.

If global warming continues (and it seems likely that it will) by 2100 global sea levels could rise by anything between 15 and 95 centimetres (approximately 6 inches to over 37 inches). A sea rise of this magnitude will not only flood all low lying land, but it will also have a knock on effect to Earth's weather systems. If the West Antarctic ice sheet melts, global sea levels would rise by 6 metres (nearly 20 feet). There are already indications that this ice sheet is unstable and breaking up.

Much has been said about the depletion of the Ozone layer and that CFCs were largely responsible. Whilst that is true, there is some evidence to suggest that damage to the Ozone layer occurs cyclically anyway. However, the hole discovered over Antarctica in the late 1970s is hoped to heal by 2050 if the reductions of damaging CFCs by industry continue at the present rate. (Whitley Streiber fans may recall his warnings about ozone depletion being given to him by his particular visitors in one of his books).

One of the greatest problems facing us concerns getting rid of all the waste products we generate. No alien help here. Nuclear waste is the most dangerous of course because high-level radiological waste (extremely radioactive substances such as spent fuel from reactors) can remain 'hot' for literally thousands of years. This will remain so until someone can figure out how to make radioactive substances non-radioactive (there are some cases where hovering UFOs are reputed to have done that).

Whilst low level waste only requires moderate shielding say, around one metre of soil (3.3 feet) there would be problems associated with non-acceptance of any radioactive waste being placed anywhere near populated areas or where radioactive material could leach into potable water. The current resurgence of nuclear power being a viable option in the UK is worrying when it is known that just one large nuclear reactor can discharge about 30 metric tonnes (33 tons) of spent fuel a year which provides an ongoing problem of how to deal with this dangerous toxic waste (the Fukushima disaster in Japan should be a warning to us all).

Conventional rubbish is almost as dangerous but in a less obvious way. A recent project undertaken by the University of Arizona in a study of approximately 9,000 landfill sites across the US found that landfill rubbish degrades very slowly and then only by around 25% to 50% every 10 or 15 years. Surprisingly, uneaten food was still recognisable even after 25 years in

the ground! Around 30% of the rubbish consisted of non-biodegradable plastic and most of the landfill rubbish consisted of paper products.

They report that much of the paper was 'mummified' and some newspapers buried in landfills remained legible even after decades. Curiously, scientific opinion when told of the findings of the report concluded that the slow decay processes were very positive inasmuch that toxins locked in the various inks used in the paper products would not leach into the surrounding soil and groundwater. It seems it did not occur to them that it would be better to re-cycle the majority of the material in the landfills - again... no alien help here.

I have already briefly mentioned nanotechnology, but it requires more than a cursory mention. Nanotechnology is so new and exciting some of the possibilities it could provide have led some people to think it is alien in concept. However, the requirement for greater complexity, increased functionality and processing power of integrated circuits led to the development of the Scanning Tunnelling Microscope which, in its turn, made it possible for nanotechnology to become a practical consideration. Nanotechnology exists in the world of the small - the extremely small - less than one 10,000th of a millimetre! At this size machines would be measured in a collection of molecules rather than in conventional parts.

At the beginning of the 1990s, scientists working for IBM became the first people to write messages in individual atoms. The logical conclusion of this is to be able to produce an actual working, practical machine built out of individual atoms. Whilst we still await this milestone it is only a question of time until it is achieved.

One of the most exciting and potentially extremely dangerous aspects of nanotechnology concerns the principle of 'self assembly' [4]. This principle exists in nature as all objects whether living or non-living, exhibit a built in system of generation - and in living things, re-generation. In the nanofactory of the future it should be possible for algorithms to be given to nanites so they could mimic for instance, the required biological cells for a patient who would otherwise be untreatable. Eventually it may be possible to build completely new human organs indistinguishable from the cell structure of the old organ from the inside of the patient. It should be possible for nanites to grow new fingers, hands, toes etc.... or anything else we need without relying on tissue typed organ donations or, artificial organs or suitable animal replacements. The same

technology can be applied to plant and animal life of course and in theory there are no limits other than those defined by future legislation.

As far as humans are concerned, the use of add-on micro electronics technology might only be used where there is a distinct advantage for doing so e.g., where enhancements would lead to an extension of human abilities. There has already been serious scientific discussion on elective surgical procedures to produce 'special' human beings capable of say running at 60mph (96.5 kilometres an hour), or jumping higher than any human can - The list of such human enhancing procedures could be endless and only limited by funding or ethical considerations. As I write, the military are already contemplating the 'super' soldier who may become almost invincible with the use of applied nanotechnology. An enemy without the technological know-how to make their own 'super' soldier will have lost the war before it starts.

A necessary and more effective use of this new branch of science should be concerned with human adaptation to extended periods in space. With a manned mission to Mars and back likely to last years it is inevitable that astronauts will become subjected to copious amounts of radiation, mostly from cosmic rays which will affect their bones together with other serious physiological and psychological effects*. Nanotechnology could help not only in environmental terms on board the spaceship, in protection of the crew, food/air and water production etc...But, it also could provide ways of cultivating food and air/water systems in a hostile planetary environment.

*When astronauts return to Earth from long periods in space, their blood cell count drops and it takes some time for it to return to normal. In the future it is thought that astronauts will have their own blood frozen and kept on space stations so they will be able to raise their blood count before they return to Earth.

In the distant future when man reaches out to the stars he will experience a much greater need for adaptation for extended space travel. However by that time there will be people whom have never seen or visited Earth. They will have spent their entire lives as 'off worlders' perhaps never even visiting any other world other than what is provided for their on-board entertainment or education. If our scientists do not solve the problem of light speed defeating drive systems it would take a human expedition to Alpha Centauri (the nearest

star system to Earth which may harbour a planet like ours) thousands of years to reach it... clearly, not very practical.

Even if we do develop light speed defeating drive systems it would still take around 4.4 light years to get there which equates to over a billion trips, or one thousand million, around the Earth's circumference! The distance to the Alpha Centauri system can be more conveniently expressed as 270,000 AUs - an AU is the mean distance between the Sun and the Earth. (Light travels approximately 6,000,000,000,000 miles in a year).

This new nanoscience will revolutionise biotechnology and may even outdo the emerging promise of gene therapy in providing more immediate benefits. Nanomachines can already be made that are no more than 50 to 300 microns in size! (a micron is 10^{-6} or 0.000001 of a millimetre, molecules and viruses range from to 10^{-9} 10^{-7} and individual atoms measure 10^{-10}). In the future, it is thought that many, if not all, surgical procedures will become unnecessary using risky traditional surgical procedures. Nanites will be made that will be able to crawl through clogged arterial material getting rid of fatty cholesterol deposits, detect and kill cancer cells, repair damaged tissues before they become a problem and do many other automated functions to keep us healthy and long lived.

In case the reader thinks this is science fiction, leading edge research in the UK - in which it leads together with the US and Japan - has developed micro devices which include what they call, a 'micromultipede' that can operate as a walking robot or be used as a multi-station cantilever valve drive. Scientists at the Microstructure facility (CMF) of the Rutherford Appleton Laboratory at Didcot UK have recently produced micro orifice arrays for electro-spray mass spectrometry for a semiconductor batch processing application.

They claim that up to now, conventional electro spray mass spectrometry has relied on single orifice systems for a nanospray source, which is costly to make and not as effective as a multiple array. To give you some idea of the scale at which these devices operate, for the mass array the height of each hollow cone is 10 microns with an aperture of only 2 microns in diameter. In a 1mm square section there can be over 2,500 cones! Of course, apart from all the benefits this new technology will bring us, there are down sides to nanotechnology.

Weapons development would be as unlimited in scope as the positive benefits of nanotechnology. This new generation of weapons could be delivered by conventional delivery systems as aerosols, water or food. They could be designed to target specific genetic types and it would be possible to control or cause the genocide of complete races on a hitherto un-thought of scale. These weapons would make nuclear, chemical and bacteriological warfare seem as insignificant as a pinprick. One way these so called 'ethnic weapons' could be used is to target specific racial groups with a synthetic virus which will ignore anyone outside the target group.

If you think this is somewhat far-fetched, Robert Harris and Jeremy Paxman co-authored a book [31] in which they revealed scientists working on the 'Advanced Projects Research Agency' for the Pentagon in the 1970s carried out research on selected groups of Asians to discover and map geographic distribution of human blood groups and other inherited blood characteristics. Whilst some might find this alarming in its clear inference, we are asked to believe the exercise was created just to establish the food requirements of American and allied troops during the Vietnam War.

Harris and Paxman also alert us to the fact that studies of ethnic differences are not just isolated intellectual exercises or for formulating food programmes. For instance, they reveal that around 95% of Cherokee Native Americans have type 'O' blood whilst 85% of Blackfoot Native Americans have type 'A' blood. It may interest readers who live in the UK, that blood group information is not currently confidential or withheld for any reason. In the UK, some 47% of the population is blood type ‘O’ that, out of a notional population of say, 50,000,000 equates to 23,500,000 people. Using the same total population estimate, if you only wanted to target say, blood type 'B' negative, it is estimated you would be targeting some 750,000 people.

The welding of nanotechnology to genetic engineering makes it far more likely that such 'ethnic' weapons to kill - or more likely incapacitate to overwhelm valuable, finite medical resources - will be developed by the technologically advanced nations for use in theatres of war against combatants using what will become crude, outworn and useless traditional methods of struggle. All this, of course, stands outside the inevitable legal, ethical and moral maze of arguments for and against such awesome power. The risk to the user and the population at large would also be considerable as there is a serious possibility that the required *self assembly nanomachines carrying the synthetic

virus could escape or otherwise find their way out of their controlled environment and cause terrible havoc in the world.

(*Self assembly - or machines capable of reproducing themselves - nanomachines would be required on a large scale to facilitate this kind of genetic targeting technology).

It is difficult to see how such a powerful tool could be controlled and not be misused. No warnings from our alien visitors here either. As far as it is known, no treaty forbidding the use of this technology for weapons purposes or the security of self-assembly nanomachines has yet been officially agreed between the US, the UK and Japan. Whilst the weaponisation of space is subject to treaty agreements by the major powers, the world has yet to obtain a similar agreement for our inner space and that must be a matter of serious concern. If nanotechnology is misused by terrorists or mistakes are made in harnessing large scale production of self-replicating nanites it is no exaggeration to say that the results could be even more devastating than an all out nuclear war.

Chapter Six

Foreign Bodies

For more than thirty years medical implants have been used for the benefit of human beings. Implanted sensors, such as heart pace-makers and specialised myoelectric prosthesis (heart beat regulatory devices which are capable of relaying electromyography data signals to electronic equipment outside the body.

The discovery of acquired immunological tolerance in 1960 opened up a whole new area of research for clinicians who specialised in this field. When scientists can already insert tiny implants into the brains of almost totally paralysed patients to enable them to operate a computer by just 'thinking' about a command, it is not surprising that predictions of future possibilities are equally staggering.

It is thought that by 2050 scientists will have developed fully functional artificial eyes [4] together with artificial peripheral nerves and brain 'add-ons' to interface with high-speed computers. There are predictions that even an artificial brain may be possible as early as 2035 if research on AI (artificial intelligence) and electronic neural networking continues at the same pace. There is even the possibility of linking a human brain to an electro-mechanical machine, in many ways like the futuristic cyborg hero cop of cinema fame at some distant date in the future.

All of these things we know about now, even though much is not yet achieved it definitely remains within our grasp. Imagine then, the plights of some people who find out they have *non-medical* implants in their bodies. Implants which they never knew they had until unconnected symptoms reveal their presence. Implants they think they have had since a UFO experience usually involving missing time they cannot account for. Sometimes these victims have had UFO sightings since they were children, only to discover strange objects in their bodies years later - perhaps some never find them for all of their lives.

It is true to say that no one can actually prove that they have had an alien implant inserted in their bodies, and no one has yet identified any common link

between the growing numbers of implants, or suspected implants, removed from victims or indeed any perceived conventional purpose in the implants. None of them appears to have any particular purpose which can be identified despite some claims that they may be some kind of transmitter. It seems the basic materials of some retrieved implants could form the basis of a transmitter, tracker or communication device.

These objects can be fugitive and those who have seen them maintain they can vaporise or crumble to powder once they are out of the body. These implants can be anywhere in our bodies, just under the skin, or deep in our tissues. They can be any shape or size, from almost microscopic to being measured in millimetres. Their purpose remains a mystery and it is likely there are probably many more people who have been implanted with these strange objects than is realised. Only a handful of victims are coming forward, mostly in the US when they realize that they have unidentifiable marks on their bodies following a close UFO encounter. If a victim does not remember being taken, they may retain the implant within their tissues until those who inserted it decide to remove it, or if it is found accidentally by a routine medical examination.

Whilst it must be reasonable to assume that some objects 'found' in our bodies may be of natural origin i.e., cysts, calcium deposits, etc.... and may have got into our bodies through accidents of one kind or another, there does remain a growing number of people who claim to have experienced an alien intervention following a close encounter or serial close encounters, resulting in being secretly implanted with an object or device for reasons specifically not made known to them - much in the same way that scientists might tag animals for behavioural experiments.

On the 24th February 1994 Lawrence J Fenwick BA, Co-Director, Founder, Field Investigator Trainer and Secretary of CUFORN (Canadian UFO Research Network) wrote to Gordon Creighton, Editor Flying Saucer Review (UK) informing him, amongst other things, of an alleged alien implant removed from the tissue behind the ear of a Canadian lady named Betty Stewart Dagenais. The object was alleged to have been removed surgically in a Toronto hospital during 1989. Fenwick claimed that after the operation he had taken Betty to the Metallurgical Department of the University of Toronto in his car, and with several students watching, the Department Head used a Hitachi magnifying microscope to determine the constituent make-up of the object.

A follow-up letter was sent to Gordon Creighton on the 1st September 1994 saying that there were certain errors in his original report and whilst a metallic implant was indeed found in Betty Stewart Dagenais, an X-ray examination of the object was carried out by a student and not the Head of the Department, as would be expected under the circumstances. The implant itself was not examined, only the surrounding tissue as the Chairman said that if they tested the metal part of it would be warped or destroyed by the heat from the X-ray machine (?). When Betty heard his comment (she was present) she said she did not want the metal part tested only the surrounding tissue.

Fenwick also advised that the year of implanting was 1961, the date of its removal was 7th March 1988 - not 1989 and she was 72 years old when she died - not 74. He promised to get the use of an X-ray machine that would not damage the sample. Unfortunately, CUFORN ceased to exist as it was shut down in October 1999 due to competition from the Internet.

However, his original report was published in a CUFORN Bulletin (Vol. 15 No.1, 1995) in which he describes the Dagenais affair in more detail. He claims that the implant was scientifically analysed on 6th January 1995 (7 years after its removal from behind Betty Stewart Dagenais's left ear)) taking 1.5 hours to do. It was an object about 1mm in diameter, dark in colour and analysis revealed it to be mostly comprised of aluminium, titanium and silicon with traces of iron, potassium, calcium sulphur, chlorine and sodium (chemical percentage breakdown not known).

Fenwick praised George Hathaway B.Sc.P.Eng, CUFORN scientist and member for the laboratory analysis and in particular his comments about the metallurgical composition of the object. Quote, *'Titanium could be used in a transmitter or receiver, as could aluminium. Titanium might have migrated from one part of the... (Indecipherable)... time, but I doubt it did so in this case. It is likely to have been foreign to the person's body in the combination found.'* End quote.

Fenwick makes a case for the object being some kind of transmitter/receiver based on the laboratory analysis showing that the sample apparently had all the elements on-board to make an effective, practical communications device. Whilst confirming that aluminium makes an excellent conductor of heat and electricity, titanium in the form of barium titanite being peizo-electric can be used as a transducer and silicon can be used as a semi-

conductor (*author*: *only special types of silicon can be used for semi-conductor purposes - object's chemical analysis might support the theory that it was a micrometeorite)* he fails to explain how these properties could be harnessed in a 1mm communications package, and how this package could be 'wired' into the subject's auditory receptor nerves and why the implanters would want to go to all this trouble?

However, Betty Stewart Dagenais was alleged to be a serial abductee, and following her third abduction on 12th July 1961 in Ontario, Canada she reported hearing what she described as 'signals' for a number of years after the event. She claimed that the 'signals' became weaker as time progressed but on occasion she heard words, but did not understand the language. Eventually, she found her way to regression hypnosis which leading up to the discovery of the implant and its removal.

In 1996 a partnership between Dr Roger Leir, podiatrist (chiropodist in the UK) trained in orthopaedic and general surgical procedures, and Derrel Sims CmHt. R.H.A, hypnotherapist and alleged abductee with twenty five experience of investigating abductee cases, was formed to create F.I.R.S.T - 'Fund for Interactive Research & Space Technology'. The partnership hoped to find physical evidence of alien interaction with mankind in the form of alien implants which allegedly had been inserted into abductee victims and also to gain respect from scientific organisations such as the National Institute for Discovery Science (N.I.D.S.). Over the next two years seven surgical procedures would be made by qualified medical doctors to remove objects from the bodies of alleged alien abductees.

During this time F.I.R.S.T would produce three videotapes, one audiotape and a book titled, The Aliens and the Scalpel' by Dr Leir. Unfortunately, Dr Leir was to experience a heart attack later but he has managed to continue his work. On the 26th April 1999 Derrel Sims announced that he asked for, and received Dr Leir's resignation as Medical Director for F.I.R.S.T. Dr Leir commented that the partnership was being dissolved because of philosophical differences but both men would continue researching the subject.

The first two patients, a man and a woman, were allegedly both victims of an alien abduction and both of them had opaque foreign objects in their bodies that showed up on X-rays. The woman would be the first to undergo surgery on the 19th August 1995 to remove two small objects from the inside edge of a big

toe after only becoming aware of them following an abduction some twenty seven years previously (*author: In this account she will remain anonymous).*

A three quarter inch incision (1.9 centimetres) was made under a local anaesthetic - she had already been partially rendered unconscious by Derrel Sims using his skills in hypno-anesthesia. When the first object was removed from her toe the patient reacted loudly with pain - it was discovered that a nerve ending had attached itself to the object. The second object was on the other side of the toe and another incision was necessary.

The first object was small and triangular in shape measuring approximately 1.5 centimetres on each side (0.6 inches). The second object was smaller but both objects appeared to be covered in what looked like a dark grey shiny membrane that could not be cut even with a new surgical blade. Pathological findings reported that a large number of nerve proprioceptors (sensory nerve endings) were found in surrounding tissues of both the female and the male patient, reputedly never found in locations near to bones i.e., foot (and hand in the case of the male patient). Strangely, the objects had not caused any inflammation of tissues that would be normal for the body's defence mechanism in rejecting foreign objects. Interestingly, both patients record they suffered pain one week prior to the surgeries being performed but subsequent to the removal of the objects, experienced quote, '...a new found feeling of freedom....' end quote. However, the male patient would have a change of heart later.

Laboratory analysis at Los Alamos National Labs and New Mexico Tech. revealed that one object had a hard core that was magnetic with a number of different elements forming a sheath. The other object contained a carbon core that was soft. It has been alleged that independent scientific reviews of the objects has convinced F.I.R.S.T scientific consultants that these objects exhibit purposeful fabrication.

The male patient would be the next to undergo surgery that day. Unlike the female patient Pat Parrinello (real name) had no qualms about being named. The object removed from his left hand looked very much like the second object removed from the female patient and was covered with a similar looking membrane.

All three objects seemed to have a lot in common at first sight. Each was covered in this peculiar greyish membrane that resisted all attempts at scalpel cuts. The largest object, still in its membrane, seemed to be star shaped or

triangular in appearance. The other two objects looked like small melon seeds. The larger object was about 0.5cm on its XY axis (*0.2 inches - this measurement conflicts with contemporaneous reports but the author considers this measurement may be the correct one. The previously quoted figure of 1.5 cm seems too large and is probably an error).* The two smaller objects measured from 2mm to 4mm (0.8 to 0.16 inches).

Much later, when the objects were dried, the membranes were removed which revealed a black shiny metallic object. All the objects were magnetic and would be attracted to a scalpel blade. They were subjected to ultra violet light and were seen to produce bright green fluorescence. The membrane was sent for laboratory analysis and it was found that it consisted of proteinaceous coagulum, hemosiderin granules and keratin, all of which are natural body substances. Further procedures to remove objects from other future patients would duplicate these general findings. Some of the objects recovered during the course of these surgeries appeared to be the product of unremarkable calcification deposits that were attached to soft tissue lesions. Pathological examination of soft tissue samples revealed that in more than one case, the outer layer of the patient's skin had been subjected to severe ultra violet radiation. This was unusual as both patients concerned were not prone to sun bathing and the exposure to ultra violet radiation did not extend to any other part of the body other than the areas from which the objects were found.

Later, New Mexico Tech. Laboratory carried out further quantitive analysis on the objects retrieved from surgery, and they issued an opinion to Dr Leir in September 1996. Unfortunately, there appeared to be some protocol confusion between the Los Alamos Lab. and New Mexico Lab. However, they did say that one sample contained eleven different elements whilst another had an iron core with an iron and phosphorous sheath. All common elements found on Earth.

One interesting statement was made concerning meteorites which the laboratory thought it was likely that the samples may have originated - this said without knowing their provenance. The laboratory advised that most meteorites contain less than 5% nickel. (*Author: meteorites are divided into three groups, siderites - which are iron meteorites, the more common aerolites - stony meteorites comprised mostly of silicon and siderolites - which are stony iron meteorites. Stony meteorites are further sub-divided on the basis of texture into: Chrondites, containing small and nearly spherical chrondules and achrondites that are similar to Earth rocks)* [14]).

It seems that the explanation of these patients being struck by meteorites or fragments of meteorites without being aware of it, stretched credulity too much. However, very small spherules (chrondules) have been found which bear a remarkable resemblance to manufactured items down to 0.2 millimetres in size, or possibly even smaller (see Appendix 1 and photo section).

The general opinion of the objects by F.I.R.S.T seemed to centre on the observation that they appear to be structured and therefore are purposeful. One 'T' shaped object in particular appeared to be of two tiny metallic rods with the horizontal bar harder than carbide steel and it was also magnetic. The iron core is said to be clad with a number of elements and one portion of the cladding possesses a crystalline band that circles the rod. One end of the object appears to be barbed, the opposing end being flat whilst the centre of the rod has a small depression matching exactly the shape of one end of the vertical component. The vertical rod is said to contain a similar method of cladding with the core being composed of carbon, not iron.

Speculation by F.I.R.S.T on the function of these strange objects include, tracking or transponder devices, behavioural controlling devices, devices for monitoring pollution levels and/or for monitoring genetic changes in the human body, much in the same way an astronaut’s physiological functions are monitored during spaceflight. However, there were no firm conclusions at that time and research continues. Whilst some abductees may welcome the removal of these strange objects from their bodies, some victims of this unwelcome intrusion into their lives now seem unwilling to have them removed in case they subsequently suffer from mood or personality changes. Other abductees now regret the removal of their implants; Pat Parrinello could be one of those unfortunate abductees.

Pat Parrinello was convinced he had been implanted with an object when he was a boy (we shall return to this later). A year on from its removal he was convinced that the aliens knew that they had been found out and he felt that they were acutely aware of those people that had been involved in its removal. Pat thought that anyone entertaining the idea of having surgery to remove what they considered to be an implant should carefully consider the options and the likely outcome before they go ahead with the surgery.

Presumably, much of Pat's apprehension following the removal of his object from his left hand was linked to some experiences some six weeks prior to the

surgical procedure. He began to have crippling migraine headaches in the front of his head having never suffered like this before. After the object's removal the headaches dramatically stopped which led him to believe that somehow, the aliens knew he was going to have it removed and the headaches was their way of protesting.

His suspicion that the headaches were linked to the surgery was further aroused from an apparent missing time episode one night about two weeks before surgery. He remembers visiting his local store only to find it crowded, walking around to the back of the store with his dog when he looked up to the night sky and saw a large orange moon rising. He estimates that only ten minutes later he went into the store again. Five minutes later he was outside and again looked up to the moon. It had risen to almost 50^{o} in the sky in five minutes! As he tried to make sense of this, he felt a pulsing sensation in his left ear lobe. Both he and his wife noticed a small lump had appeared. By the time his appointment for surgery had arrived the lump had disappeared.

There is a strange postscript to this story. Pat remembers videotaping a television programme on implants about a week before his surgery. The day before he was due to attend the clinic he thought he might watch the tape and remembered the programme he and his wife had already watched featured a segment on ear implants. On watching the tape he found that the segment on ear implants was no longer on the tape - almost as if it was never recorded in the first place!

He is apparently quite ambivalent about the aliens and he does not seem to fear them at all. However, subsequent to surgery he subjectively felt as though his psychic and intuitive side to his personality has been somehow temporarily damaged. He described the sensation like being 'taken off line'. He continues to have daylight sightings despite the removal of his implant and these sightings appear to be a common thread running through his life since his childhood sighting when he was six years old.

Pat recounted that when he was six he was suddenly awoken from sleep and though paralysed and unable to move, was somehow 'directed' outside of the house and into a nearby field. He remembered seeing strange moving lights in the summer night sky and was yet unaware of any matters involving UFOs, space travel etc.....

The field he was in had been freshly planted with sweet potatoes and as he walked he saw a metallic looking sphere about 18 inches in diameter (45.7 centimetres) come out of the sky and land just in front of him. He recalled it seemed to spin and his curiosity quickly turned to fear. He overcame his paralysis and turned to get away; as he turned he heard an explosion and felt a severe pain in his left hand, '...as though sharp claws had grabbed me...' He believes he then became unconscious. The following morning he awoke in his bed and vomited. His mother asked him where the blood on the sheets had come from. Presumably, this was the occasion where he received the object in his hand.

In 1968, when he was twenty years old, he remembers being with a friend after a fishing trip and using his torch to 'flash' at a hovering UFO that returned his signals with theirs. Both of them were standing directly under a soundless disc shaped object estimated to be about 150 feet in diameter (45.7 metres).

After a 1971 car accident in Venezuela when he was 23 years old, which involved X-ray investigation, Pat was told that the triangular shadow on the X-ray plate was a cyst and nothing to worry about. It was not until he discovered that it was not a cyst but made of metal by fooling with an electronic pipe finder did he consider having it removed. He could have had this object in his hand for forty-one years!

Dr Leir continued his research and by the beginning of 2000 had been involved in nine surgical procedures to remove objects from patients thought to be of alien origin due to their apparent construction and chemical composition. One of the objects removed turned out to a tiny piece of bottle glass, but the other objects had a less prosaic make-up.

Shapes of the objects continue to be seed shaped, triangular and one 'T' shaped (as mentioned in detail previously). The objects were reported to be both metallic and non-metallic and none of them were recognisable by the clinicians as being anything like normal substances removed from any human body in their experience.

Apparently, it has been found that two of these objects, whilst still inside the patient's body, are emitting an electromagnetic field that is alleged to have produced about 3 milligauss (magnetic flux density measurement) which is a very small amount of magnetism. However, once outside the body the objects cease to function suggesting the objects require body chemistry to function -

albeit on an extremely low quiescent level. (*Author: all human cells have an electric potential. Whilst a cell is only 200 nanometres in size it generates 50-60 millivolts).*

Current research continues in the search for implants in possible abductee victims but it is inevitable that some witnesses to UFO close encounters may not know they have an implant until something quite unrelated reveals its presence. Another case of Dr Leir's may have had his implant for twenty years following a close encounter in 1978.

Following the removal of this now typical melon seed type object covered in the familiar dark, hard membrane tests showed that it responds to magnetism in a very peculiar way. When a magnet is held above the object and moved backwards and forwards, the object appears to 'grow' two protuberances that point to the magnet as it is passed over the object. This particular object will now be examined by a laboratory using what is called, an 'Atomic Force Microscope' and Dr Leir hopes that this study will reveal even more about this peculiar item.

Whether you believe that alien implants exist or not is open to some serious debate and it would be wise not to jump to conclusions. Not only the existence of such things is in question but also their purpose, given that no object which could be identified by us as being a non-medical implant does not correlate with any known technology. In the knowledge that we can now perform therapeutic brain implant procedures to enable victims who are paralysed to communicate with the outside world surely, we should be able to find at least *some* recognisable features in these strange foreign objects?

There is also the small problem concerning placement of the implant. Many alleged implant victims seem to have had implants removed from extremities. Whilst there does remain some who have cranial implants, the majority do seem to have had implants in feet, hands, arms or legs...why? Could it be the aliens are much smarter in implant placement than we would be? For example, if we wanted central nervous system data we would tend to plant a device near or in the actual area we are interested in, perhaps the brain, brain stem or spinal cord. To get the same data the aliens might not need to go to these sites with all the attendant risk that would involve for the subject. However, we have no idea what kind of information is being collected or why or even how that can be achieved.

Then there is the important question concerning the physical properties and chemical composition of the objects so far removed. None of these objects have any material in them that could be considered to be 'other worldly'. All the chemistry is available right here on Earth. Whilst many metallurgical components could be used as piezo-electrical generators or transponders etc..... they patently are not used in that way otherwise there would be some evidence to support it in the body site where they are found.

If, as some researchers have suggested, these small objects are some kind of nano engine, we should surely be aware and there should be other physical signs and tests that would confirm it. The claim that no inflammation of the surrounding tissue occurs in the site of the alleged implants is only surprising when we know that if a foreign object is introduced into the body the body's defence systems automatically attempt to reject it. However, this is not always true. I have a piece of brass metal lodged in one of my finger bones which has been lodged there for nearly forty years to corroborate that and it has never been inflamed. Apart from occasional pain in very cold weather or when I knock it accidentally I would not know it was there.

The reader will recall the Betty Stewart Dagenais case in which she reported hearing, 'signals' and 'words' implying these abnormalities stemmed from her cranial implant behind her left ear. Whilst cranial implants logically suggest a particular functionality, it is not certain at all what hand or foot implants imply. What were the aliens hoping to achieve by these kinds of placements? Or does this suggest a degree of intended specialisation in siting specific implants? The fact that the implants removed to date by Dr Leir and his team of surgeons fall into two distinct groups i.e., metallic and non-metallic suggests at least two differing functionalities and broadly look alike, apart from one distinct specimen, and yet there is no evidence at all to suggest any functionality - certainly none that our leading edge technologies would recognise.

Is it possible that these 'implants' are without any purpose at all? Could they be formed over a period of time like an oyster's pearl from a piece of grit or irritant formed from natural body chemistry when that body has come into contact with the very high strangeness of a close alien encounter? Is it not possible that many of the psychological symptoms that follow the removal of

one of these objects is a natural reaction to anyone losing an object that has been in their body for many years? Isn't there a natural fear involved here?

If these objects function as transponders, control systems etc. there would be at least some evidence to support the hypothesis. The surprise that nerve endings are found with these objects does not mean automatically that the objects somehow coax the body's nervous system into co-operating with it.

Using human logic, if we wanted to control or monitor people by inserting an implant into them, it is more than probable we would choose the brain as the site for the implant for ongoing experimentation. If we wanted to hear, see or feel (sensory perception) we would also choose the brain for our implant. This is the only logical site for any intelligent implant, alien or otherwise, that is why I remain uncomfortable with other reported body sites.

There are some cases on record where known abductee victims have had implants removed from their bodies. These people may fall into the category of serial abductees whom are totally at the mercy of their tormentors, possibly from childhood to their 60s. In these cases, it is presumed that the perpetrators do possess and use 'intelligent implants' or have the need to regularly replace their devices to down load data perhaps or possibly renew objects that cannot remain in our bodies for any great length of time.

The debate continues as to whether alien implants do actually exist and what their purpose is if they do. Questions as to whether these strange and almost mythical, fugitive objects perform any task whatsoever remains open to conjecture. Whether they are on-line or data capture down-loadable devices is unknown. Whether the devices control us, cause evolutionary changes in us through unknown means, insert alien DNA sequences into us or mark us for their use once in their custody, one thing is sure - it is not likely to be for our benefit.

The insertion of what appear to be strange non-functioning devices into parts of our bodies probably has nothing to do with cloning alien/human hybrids as it is almost certain that alien DNA sequences are nothing like ours if they are ETs - even more so if they are some kind of intra-dimensional travellers. However, our DNA sequences do have some commonality with all other life on Earth.

It might just be possible that some aliens may be tampering with our DNA in an attempt to produce other life forms that have been non-existent up to now on the planet. It is reasonable to assume that aliens capable of navigating across the deeps of space would have little difficulty in genetic manipulation of Earth life. Let's face it, if you found a solitary fully stocked sweet shop with every variety of confection could you resist tasting the sweets? Especially when the shopkeeper is asleep in the corner...

The aliens would have found a world at its peak in a point of time, rich in bio-diversity and dense in all types of life from the smallest bacterium to the largest creatures - a world though still comparatively young and active, would not always remain the same. A world perhaps on the cusp of change... Surely, the temptation to make use of what could be a unique opportunity to study and use the planet's very rare biological and vast natural resources could not be passed up even by the most careful alien civilizations.

Chapter Seven

Windows on Reality

For many years abductees have reported being either mind manipulated or actually shown scenes on large screens of exploding Earths. They are made to see terrible apocalyptic visions of an Earth-like world in exploding into fragments - all life gone... everything that ever was or would ever be - all gone. The power and impact of this vision always overwhelms people who have experienced it and has a lasting effect on them.

Could it be that the vision is not of Earth's future or past, but of what might have happened to planets in our solar system in the past, long before mankind emerged? Earth is unique amongst the stony planets in our solar system and it seems that it may have been from the outset. However, there is now ample evidence that Mars once had vast oceans and tracts of water. If it had water it must have had an atmosphere. If it had water and an atmosphere it should have had intelligent life that we should recognise.

Perhaps the vision of an exploding planet relates to a time when our solar system was being formed, when planets were re-forming due to the accretion of colliding proto planets jostling for space within the many crowded orbits around a young star. Or might it be a vision of a catastrophic future resulting in an Earth kill when a huge planetary body calculated to be many times larger and three times more massive than Jupiter (diameter 88,700 miles 142,718 kilometres) comes close to us as it orbits the Sun the 'wrong way' around every 6 million years. Could this be the Sumer 'Nibiru' or the Babylonian 'Marduk' mentioned by Zecharia Sitchin in his 'Earth Chronicle' series of books that revealed the existence and characteristics of this strange tenth planet? Are our visitors trying to tell us about this forgotten history and warn us of our inevitable catastrophic future?

If this rogue world exists it appears to have no light of its own and is thought to be what is known as a 'brown dwarf' (or failed star - proto stars that do not have sufficient fuel to start a fusion process) it is therefore very difficult if not impossible to detect its presence except by observing the strange wobbles in the orbits of the outer planets which implies an unseen gravitational force acting upon their passage through space. These gravitational wobbles have been

known about for many years but Hubble or new generations of radio telescopes may provide astronomers with more information in due course.

Since Hubble and NASA's probes are being sent all parts of the solar system we have learned much more about our planetary neighbours. For instance, we have tables of statistics on all planets, satellites, important comets and asteroids. The most distant planet - some still speculate that Pluto may be more of a satellite than a planet - and with an equatorial diameter of 1,430 miles ((2,300 kilometres) was found to have 2,320 to 1,270 kilometre (1,442 to 789 miles) methane ice caps at -2190 Centigrade, a dark ice free equatorial band only 50 warmer and a thin atmosphere via Hubble in 1987. In 1993 spectral analysis detected frozen methane, carbon monoxide and nitrogen. Pluto's sister planet (or satellite) Charon is strangely ten times less dense than Pluto at 739 miles (1,190 kilometres) in diameter. Unlike Pluto, it seems Charon has water ice on its surface.

In 1994 US and Russian teams were put together with the plan to investigate Pluto/Charon and the Sun in two major science programmes called 'Ice' (Pluto project) and 'Fire' (Solar project) for which there would be four windows of launch possibilities within years 2001 and 2004. These would be long-term projects and would likely take around five years or so to complete, assuming that budgets allow the full-anticipated programme. As part of the effort to explore the out planets, the NASA Project ‘New Horizons’ was launched from Cape Canaveral in January 2006 and is due to make a close fly-by of Pluto in July 2015. This remarkable technological achievement will provide a better understanding of the outer reaches of our Solar System and prove that mankind has the ability to reach out and explore places we could only dream of in the past.

Maybe the visitors are warning us about impending annihilation as a result of a catastrophic change in our Sun's output? We now know a great deal about our Sun (see Notes & Bibliography [19]). Apart from the obvious fact that it is the cause of life on Earth and that it will probably also be our nemesis there are many other fascinating facts about our star.

The Sun pulls the Solar System along with it as it orbits the centre of the Milky Way Galaxy whilst it remains locked in a gravitational embrace in an outer edge of one of the spiral arms. It does this at an average speed of about 300 kilometres a second (186 miles a second). The galaxy comprises at least

1,000,000,000 stars packed into a spinning spiral system at least 10,000 light years across and several hundred light years thick together with dust, gas and interstellar remnants. The Sun and its Solar System will complete one complete revolution of the galaxy in 200 x 250 million years.

The Sun and our life giver is what is known as a typical G2 class star, a so-called main sequence star with a surface temperature of 6,000º Kelvin (see App.1). That gives it a white to yellow light. Other stars can be as 'cold' as 3,000º Kelvin ('M' class stars or Red Dwarfs) or as 'hot' as 60,000º Kelvin (Blue Super giants). It is speculated that different nuclear processes occur in stars that generate that much energy. The Sun comprises some 99.86% of the mass in the entire Solar System and the planets only contribute around 0.135% with the remainder of mass going down to four or five decimal places. The Sun is around 109 times the diameter of the Earth and weighs in at 334,400 times the weight of the Earth (2.2 x 1027 tons - 2 x 1030 kilograms) and it is thought that the temperature at the centre of the Sun is about 14,000,000º Kelvin.

Most of the Sun's mass is comprised of hydrogen (about 78%) and helium makes up most of the remainder with over sixty other elements in small amounts. If you took 1 cubic foot of matter from the surface it would weigh 87.4 pounds (39.3 kilograms). However, 1 cubic inch of the Sun's core material would weigh the equivalent of forty 100,000 tonne aircraft carriers concentrated in an area the size of a thumb-nail!

The Sun radiates energy equivalent to 4 million tons of matter every second and it has been estimated that it has only lost matter to energy equivalent to one five thousandth of original mass since its birth. It is thought that the Sun reached its current temperature about 800,000,000 years ago and its current brightness should not diminish for at least another 1.5,000,000,000 years. It has a potential life of around 13,000,000,000 years and seeing that it has already been in existence for around 6,000,000,000 years we should have another 7,000,000,000 years of uninterrupted sunshine barring astronomic accidents.

There are, of course many other fascinating statistics about our Sun, but the point I am trying to prove is that we know quite a lot about our life-giver and eventual executioner through our ability to design and use instruments to measure, analyse and quantify, not only our immediate environment, but also the greater environment without any help from external sources. The other more serious point is that we should have no fear that our Sun is about to blow up or

extinguish itself, if the aliens were to give us this message we would know they must have been deceiving us to see how we would react or for other hidden motives. Perhaps they are trying to impress their own memories on us and it was a vision of what happened to their home planet!

I have already touched on 'asteroid impact death' in chapter one but the colliding worlds vision given to many abductees could be a coded message which attempts to explain - not warn - of what might have happened to what many call Earth's sister planet....Mars. This weird portentous vision of a splitting Earth may be a dramatic vision of Mars under asteroid attack. Of course, Mars did not split or break up, but there are definite signs that indicate the planet did undergo radical attacks from space.

In any event, if we were being warned of a fate similar to that suffered by Mars, what could we do about it? A single asteroid on a collision course might be deflectable, given our current capabilities. A swarm of meteorites or asteroids would be another thing altogether. Perhaps if we had the time and the foreknowledge might we build vast pyramids on the Earth's surface and live underneath them for protection? Scientists have discovered about 140 impact sites on Earth but as Earth's surface is mostly water and given that early Earth land masses also looked different than today, many impacts would go undiscovered if they hit water. Later impacts may betray their presence if research is carried out regarding palaeoclimatological evidence of early inundations.

In May 1999 the Hubble telescope produced data that indicated that the Universe is around 12,000,000,000 years old (that is the furthest distance that the telescope has recorded light). With such a vast Universe and the crowded 'back-yard' of our galaxy, could the aliens be trying to warn us of an astronomical event that has already happened and one that exists *in our future?*

If the conditions are right a proto-star will start a fusion process and stabilise into maturity. As the star uses up its hydrogen fuel it ages and most stars change into a swollen red giant. At this stage the star is unstable and can become what is known as a variable star - a star which exhibits a change in its magnitude over a period of time – or a nova, a planetary nebula or a supernova where the star literally explodes. If the star does not explode, it can collapse under its own internal gravity and become either a white dwarf, or a neutron

star. It can also become a black dwarf and even a black hole. All of these options depend on the star's mass at the time of change.

Our G2 Sun is likely to become a swollen red giant at the end of its life with nuclear fires spreading out far beyond Earth. After this stage it is thought it will collapse into a white dwarf with no solar output as such. But we may not have to wait for that very distant event to happen to destroy us, and the Earth. When a massive star undergoes gravitational collapse and explodes it ejects prodigious radiation in the form of highly charged particles and matter eventually shrinking into what is called a neutron star or a black hole. These events are monumental and spectacular. Only four supernovae have been seen in our galaxy over the last 1,000 years. The last one that was just visible to the naked eye was seen in 1885 when a star blew up in the constellation of Andromeda some 2,000,000 light years distant.

More recently, a star known as Sanduleak 690 202 became an observable supernova on the night of 23rd and the 24th November 1987. It took place in the large Magellenic Cloud (see App.1). At 160,000 light years distant it was the nearest supernova to us to have occurred since 1054 when Chinese astronomers recorded a supernova event that is now known as the Crab Nebula in the constellation of Taurus some 6,000 light years distant. This explosion caused the formation of a very dense neutron star at the explosion's epicentre that became detectable as a pulsar at radio frequencies, X-rays and even optical light. For the first time, Cosmologists detected showers of 'fresh' neutrinos from Supernova 1987A (neutrinos thought to have originated in the Big Bang are now so weak that it is very difficult to detect them). Even so, because neutrinos do not readily interact with matter, only about 19 events were captured by instruments in the US and Japan.

A nearby supernova explosion say, within a light year, would certainly give us a very bad day but there is much worse to come. Whilst supernovae are monumental events even they pale against what astronomers now call 'hyper novae'. NASA launched a gamma ray experiment called, the Compton Gamma Ray Observatory via the Space Shuttle in 1991 in order to study high-energy particles coming to us from space. The Hubble telescope would provide deep space pictures and the Gamma Ray Observatory would provide essential data on high-energy emissions from space. On the 23 January 1999 the observatory detected a massive surge in gamma ray emissions sweeping through the Solar System. NASA’s computers tracked down the location of the source of the burst

of gamma radiation automatically. Astronomers later discovered that there had been a massive explosion at the edge of the visible Universe, in a galaxy some 9,000,000,000 light years distant. A small telescope in New Mexico had managed to record this event which would have been visible to someone using binoculars, if they knew where to look and at what time to look. The huge fireball which erupted and then faded in just a few minutes must have been a stupendous event, unrivalled perhaps only by our initial Big Bang. Sir Martin Rees, The Astronomer Royal commented [18] that if this hyper nova explosion had occurred in our own galaxy at about a 1,000 light years distant, it would have been 'as bright as the Sun in our sky'.

To have such an explosion of a massive star in our own back yard would certainly mean an Earth kill due to radiation that would sterilise the planet. Fortunately, such events seem to be rare and astronomers believe that only one hyper nova explosion only occurs about every 100,000,000 years on average in galaxies like the Milky Way but *(author: no one can predict when one will go off).* Is it unreasonable to think that a race or races of experienced cosmic travellers would not possess the technology to predict such events based on their knowledge of the Universe? Perhaps there is a pending event waiting to happen right now.

We know how our Sun works, how other stars work, live and die. We know about galaxies and our instruments can see almost to the edge of the observable Universe - soon we shall be able to know everything we learn about our Earth, Solar System, our Sun and our immediate galaxy. And yet we still have only made a very tentative, and short journey to our nearest cosmic neighbour - we are still virtually confined to our planet. Imagine how much more our seasoned space visitors must know? We even think we know how the Universe came into being. This is not arrogance, it is the product of thinking, searching, but limited human minds fired up to explore and learn. It is not difficult to envisage the scope and depth of knowledge any space visitors would have.

Scientists now hold the assumption - seeing that it is the best model currently available - the Universe started as an infinitely small singularity occupying a space no larger than an atomic particle. However, this theory does have some difficulty in accounting for the wave/particle duality concept but for purposes of reasonable clarity it will be ignored (see Notes). The generally accepted event that cosmologists call the ‘Big Bang’ is believed to have created and released all the matter there is in the Universe, and caused corresponding

space-time to initially expanded very rapidly. Cosmologists are now in consensus that the expansion of the Universe is still happening, albeit at a much slower rate than the initial expansion...some believe...for eternity.

Cosmologists have provided us with what they perceive to have been the processes leading up to the birth of the Universe and speculated to its' ultimate fate. Although there is still some debate as to how the end may arrive depending on whether the Universe is *open* i.e. it keeps on expanding but the mass density gets smaller and smaller, or *closed* with the expanding Universe eventually collapsing due to gravitational forces. Is our Universe currently existing in a balanced way with the forces of expansion exactly equal to gravity and will it just stop expanding at some point remaining static for a time before oscillating into a collapse only to be re-born with another Big Bang ad infinitum? Or will it exist in an *inflationary* state?

A Universe that keeps on expanding or comes to a full stop based on the amounts of what is known as 'dark matter' (the so-called missing mass of the Universe), or steady state, a Universe which goes on infinitely with new galaxies being formed as old ones die which will require the birth of new hydrogen protons to maintain matter density (see Notes).

At around 10^{-43} seconds following the 'Big-Bang' it is postulated that gravity separated from the three main physical forces i.e. the strong nuclear force, the weak nuclear force, and the electromagnetic force and whilst the timescale of 10^{-43}seconds is incredibly small, the period before it is known as 'Planck time'. At 10^{-33} seconds three forces came into being in their own right i.e., strong nuclear, weak nuclear and gravity. At 10^{-10} seconds (when light has travelled just over a foot or 0.3 metre) the weak nuclear and electromagnetic forces separated. After 10 microseconds elapsed (10 millionths of a second) quarks combined to form discrete particles. In three minutes the nuclei of light atoms formed and it took 500,000 years for what we perceive as complex atoms to form. It took up to a billion years for proto-galaxies and proto-stars to form from the gas clouds these processes produced. Seeing that everything is made from fundamental particles it is worth staying with this theme for a while even though it is probably truer to say that everything is made of space, held together by fundamental particles*. Perhaps the LHC at CERN will provide a greater understanding of these processes sometime in the near future.

*(*If all the space between the atoms in a human body were to be removed, the solid portion remaining would be less than the size of a grain of sand! Perhaps Einstein was right when he said that there is no such thing as matter. He is quoted as saying that it is an illusion, which is created by the vibrational speed of various forms of energy).*

General Relativity predicts that after about 25 seconds following the Big Bang, the temperature of the mix was about 4,000,000,000^{o} K with a density of around 2 tons a litre. The core of the mix is assumed to have consisted of neutrinos and photons with some protons, neutrons and electron/positron pairs with a density now of 10 grams per litre. At this stage in the proceedings, stable nuclei of hydrogen cannot be formed from proton electron bonding because the intense radiation would prevent that occurring. Similarly, proton/neutron interactions cannot take place to form deuterium nuclei. But, after about another minute has passed, the Universe has expanded and cooled enough for deuterium nuclei to hold up. This causes further chain reactions which results in turning all the deuterium into helium causing a few light elements to come into existence.

With all the deuterium gone, fusion stops and it is only after a few hundred thousand years the Universe is cool enough (5,000 - 6,000^{o} K) for particles to form atoms we would recognise. Scientists have now made an educated guess - seeing that we now know there are only 3 types of neutrinos - that around 23% of the matter available in the early Universe was converted into helium which helps to corroborate the Big Bang theory. It is now thought that the lightest elements came from the Big Bang e.g., lithium with the heavy elements, like iron being manufactured in the stellar factory furnaces.

Theoretical physicists are confident that they can explain how heavy elements are formed in stars, especially if atomic nuclei are bathed in neutron radiation. It is now known that stars that go supernova produce copious numbers of neutrons. It is useful to know how this process is thought to work. Free neutrons hold the key and will emit an electron because of beta decay if left on its own. If a neutron is added to a nucleus it will increase the atom's mass but will not change its charge or its chemical properties and it will merely transmute into a different isotope of the same element. Often the new isotope is unstable itself with a life of perhaps just a few seconds (or even a few years in some cases) after emitting an electron in the beta decay process and in so doing it converts one of its neutrons into a positively charged proton which makes a different element. This process may get repeated time after time causing a slow

but gradual build up of nuclear interactions and is known to physicists as the slow or 's' process.

In a supernova where there are neutrons at saturation levels, a nucleus will trap several neutrons before it has the time to eject an electron or have the time to decay naturally. This capture sequence is described as the fast or 'r' process. New isotopes are produced by both 'S' and 'R' methods but only a small number of stable nuclei are produced using the 'R' process. Astrophysicists predict that only around 28 stable isotopes are produced using the 'S' process. These processes largely explain how all the elements are made.

However, they currently have a difficulty with some isotopes that are proton rich that suggest some kind of proton capture process. However, this process remains opaque at the present time. Scientists now know that some isotopes are born in space with the influence of cosmic rays, but these remain exceedingly rare. Perhaps our visitors will be able to help us understand these outstanding problems with particle physics? (See Notes)

The theoretical existence of gravity waves and gravitons, also theoretical particles thought to carry gravity waves around the Universe, are now seriously being considered by scientists. In trying to prove the existence of black holes it should be possible detect the gravity waves predicted by General Relativity and scientists are now using very sensitive instruments at Lagos (Laser Interferometric Gravitational Wave Observatories) in an attempt to identify gravity waves (thought to be created in their abundance from supernovae explosions). The implications for communications and travel over stellar distances are obvious if it is possible to create or use such an abundant facility throughout the Universe. Perhaps our visitors already use this esoteric technology to cross the vast dark oceans of space?

Most scientists do not accept the idea that travel to the stars is possible, with our present technology we can only think about manned round trips of possibly two to five years to say, Mars. With conventional chemically propelled vehicles it just is not practical to consider trips to the stars. But if we had vehicles that could get close to light speed the idea is theoretically possible.

Paul R Hill [13] makes an eloquent scientific case for the possibility of comparatively short on-board travel times to star systems up to 100 light years distant.* His calculations show that a linear trip to Alpha Centauri, our closest star system, would only take an on-board time of six weeks from a standing start

to a standing finish if, our spaceship could accelerate at 140g to 0.9999% of the speed of light. To Earth based observers the trip would of course appear to take the full 4.4 or so years (the light speed distance to Alpha Centauri). He proposed that by using different values of 'g' (acceleration) and spaceship velocity percentages of light speed, trips could be tailored to requirements i.e., a 'slow' trip of say, 0.9% of light speed would require on-board travel times equal to half the actual distance in light years for any distance above 10 light years.

However, using a reciprocal of light speed amounting to 0.99% would enable our theoretical spaceship to reach stars as distant as 50 light years. Hill maintains that the fastest trip using 0.99999% of light speed would place all star systems within 100 light years within reach with on-board trip times of under one year's duration. Unfortunately, on one's return to Earth some 200 years will have passed, but the spaceship crew will only have aged no more than 2 years!

The Alpha Centauri trip Hill mentions is interesting because it is believed to be the nearest star system to Earth some 4.4 light years distant, in which there is a likelihood of discovering a planetary system like our own. Alpha Centauri actually consists of three stars, Centauri A and B is medium sized G2 stars, similar to our Sun. They revolve around each other every 80 years, and the smaller Centauri C, an M5 class star - a red dwarf - revolves around Centauri A and B every 500,000 years. Astronomers now believe that the A and B stars have planets orbiting them in many ways like our own Solar System. So, Alpha Centauri seems a good bet for exploration.

* (light travels approximately 5.88 trillion miles or 9.4607 trillion kilometres in a year, so 100 light years amounts to either 588 trillion miles or 946.07 trillion kilometres!).

Approaching light speed in a spaceship has its own problems, even if such velocities could ever be attained. Space is full of dust and debris, and an impact with even the tiniest piece of dust would be catastrophic to our make believe spaceship, so some kind of continuous enveloping repulsive field would be necessary. Whether our visitors use linear light speed travel or some kind of space-time folding technique, quantum field generators or some other exotic system as yet unknown to us, it is clear that if they can travel across vast distances in space-time they have solved most of the problems - including the ability to neutralise or adapt to the tremendous positive and negative 'g' forces intergalactic travellers would experience using the linear high speed model.

If we are left to our own devices it must only be a question of time before we can match their travelling exploits if, as we suspect, the same physical laws apply equally throughout the Universe. We do not know how big the Universe is; all we know (or suspect we know because of the 'red shift' phenomena) is that it is still expanding. The very latest data suggests that the Universe may be flat ('Project boomerang') not curved as Einstein predicted so we are still searching for answers to the big questions.

I have dwelt at some length on a very little of what is known about our unseen world of particle physics, because it is that knowledge and our developing understanding of the reality in which we exist which will enable us to break free from our only home - the Earth. We have begun to learn that our reality is not the only one. The physical laws that bind us have no meaning in the sub-atomic particle world or the awesome might of the super massive black hole or the strange equally theoretical 'white hole' where matter seems to appear spontaneously as if from nowhere. It is a paradox that we should know so much about subjects we will probably never experience directly.

Is it credible that the visitors sparked off man's journey of discovery just by handing us a transistor, a laser, a piece of fibre optic cabling or a chunk of super thin, super tough metal? There has to be more than this if we would benefit from their presence. It has already been illustrated that much of the scientific advances, both beneficial and otherwise, are in place because of the way human beings have learned how to communicate better and how to focus their efforts in problem solving across geo-political and cultural boundaries.

If the visitors are here to warn us of some impending catastrophic event e.g., an asteroid attack or pending supernova or hypernova near event that implies they would want to do something about it by the mere fact that they are here. It is reasonable to assume that the only thing they could do about it would be to preserve as many human beings as possible so that the whole of mankind does not become extinct or a memory if intelligent life is rare in the Universe. There is no evidence of mass disappearances suggesting that we are being carried off somewhere to safety.

Apart from very isolated occurrences, there is no hard evidence to suggest these visitors have in the past or are currently helping us out of kindness or even pity for the state we are in. What they *are* doing is *using us* - a rare, valuable and interesting biological resource. It seems we are under constant surveillance just

as we would look at a caged animal in a zoo. They can abduct and use us at will and reputedly implant their strange objects in our bodies whilst we implant our own therapeutic devices in human brains so that people can lead better lives. They steal our gametes and reputedly mess around with our DNA while our scientists untangle the human genome and genetically engineer combinations of animal and vegetable cells eventually in the hope that we can defeat the major diseases that kill so many of us.

Their acts are clearly not friendly towards us and the fact that our skies seem to be increasingly full of strange objects which clearly have no relevance to any civil or military hardware, should be cause for grave concern - especially as most governments are either unwilling or powerless to do anything about it. The UK's MOD reluctance to act on the basis that UFOs have Quote: "*no defence significance*" Unquote...suggests a large measure of stupidity or obfuscation on their part. I would suggest that they are acting under orders from the US and are constrained by agreement. It is entirely reasonable to think that the relevant cabals within the UK would know a great deal more than they publically state about the US/UFO experience in particular, not to mention the many other developed global democracies.

Chapter Eight

Into The Unknown

17th Century French philosopher, scientist and mathematician, Rene du Perron Descartes considered that the human being was no more than an inanimate machine. He did not believe that the mind was part of a larger soul as had been thought up until then. Soul was to be shrunk and compressed into man alone amongst the animals and then even further compressed into the brain's endocrinal gland, the pineal - a small organ which terminates at the optic thalami of the brain - it releases melatonin into the bloodstream.

Modern thinking has not deviated too much from this idea, except that now, the seat of the soul now supposedly resides in the cerebral cortex. Some readers may consider that it is paradoxical that Descartes was responsible for giving us an understanding of how rainbows are formed, and yet at the same time attempting to destroy the beautiful mystery surrounding the unquantifiable and elusive human soul.

If, as often has been said, the visitors are not just after the physical bodies but are after our souls as well - there is something wrong here. If our souls live as long as we do and crumble along with our flesh when we die, what do the visitors mean? Our theologians tell us that our soul is immutable and eternal as part of the Godhead, existing outside our poor mortal presence in the reality in which we are born - borrowed from God if you like. Or is the visitor's claim not their own, but *our impression of them* - which we confuse and mystify in an attempt at a futile rationalisation of them?

Descartes was not alone in believing in the dualistic approach of a separate mind and brain programmed by Nature to interact in some mechanistic way to manifest itself in a human being. Reductionist science and materialists concluded that the mind is no more than an electrochemical function of the brain with no such thing as a soul existing separately outside our physical reality – a mere religious concept.

Using that analysis, the workings of the human brain can be explained away as being just chemically compliant parallel neural networks. Neurons continually electrically fire across and to each other throughout the brain in a

particular pattern to emerge as any number of object oriented tasks creating inspiration, religious feelings, artistic temperament or any one of a number of high human feelings or ideals depending on the mood or stimulus the brain's owner is experiencing at the time. Of course, it can also create base thoughts in the so -called 'reptile brain'. Even when we are asleep the brain continues to work automatically and tirelessly even though it is 'parked' with reduced stimulation (hearing seems to be still 'switched on' even though our other senses are in a quiescent state - a consequence of evolution).

That the human brain works in unpredictable ways as well as being predictably responsive to blunt chemical or electrical treatment strongly indicates that it more than just the sum of its parts. Even an average brain contains more neural connective possibilities than there are leaves on the trees of the [20] Amazon Basin! The visitors must know by now that we are not just animals with good brains? Or perhaps the 'Mind' *does* exist outside us and some of us can tap into it, but most of us can't because we are genetically incapable. Is soul just another word for 'mind' - *The Universal Mind*?

Around 50% of people in America and the West believe in telepathy and physic phenomenon. Surveys in the US have found that between 10 and 20% of the population believe they may have had at least one OOB (Out of Body) experience. Eastern and aboriginal cultures probably do not attach the same importance to this phenomenon as we do and may consider what we would call paranormal events (for want of a better word) as an integral part of their everyday lives. In that respect, the visitors should be better understood as being part of the 'other world' or from the 'beyond' place which *has* to remain outside our human experience.

As far as I know, there is little indication to show that Eastern victims of the visitors are no less frightened by the visitor experience than a Western person. The only difference is in the way the visitors slot into the cultural framework of the race of people involved. Whereas someone in the West would see the visitors as ETs and be curious and probably frightened by a contact event, an Eastern victim may see the visitor experience as demonical from the outset, and paradoxically may be more mentally equipped to accept their experience as part of their cultural heritage. In that way, they may become less unsettled by contact with alien or otherworldly beings. They do not have to worry about government cover-ups or aliens taking over the world, for the aliens and otherworldly entities have always existed in their culture and they carry on their lives despite them. It

is fair to say that our visitors are fascinated by us and are interested in our world and there is little doubt that they now must fully understand our chemical makeup, our mental capacity and capabilities, and possibly most of all - our frailties.

Man continues to search for the mythical 'Universal Mind' and many believe they have found it through religion. However, others see such matters in a far different light. Rupert Sheldrake (famous for his Gaia hypothesis) reminds us [21] that whilst classical Einsteinian physics postulates that the Universe is contained within a gravitational field, curved in the vicinity of matter with each atomic particle as a quantum of a vibratory electric field which cannot be further reduced, practical biologists were seeking practical solutions within Nature's context to explain simple things, such as - why do plants grow?

As early as the 1920s, embryologists and developmental biologists theorised that some kind of 'morphological field' dictated how plants and animals grow and develop. These 'morphological fields' were thought of as a master blueprint made by Nature as it continually shapes the life and the destiny of all organisms. According to Sheldrake, these 'morphic' fields serve to shape all entities whether they are individuals or whole societies of individuals. He thought that there was some kind of 'memory' based upon a 'morphic resonance' that spreads across space-time.

In the 1800s a German physician, Franz Mesmer had a similar idea. He thought that, 'living matter has a property susceptible to being acted on by earthly and celestial magnetic forces' which is not far away from the 'morphological field' idea. Mesmer postulated that the entire Universe is filled with a fluid less perceptible than a gas in which all matter is immutably immersed. He considered that this fluid also carried vibrations which was the cause of all existence and that each living organism has a direct influence on other living organisms because of vibratory influences in the ether. (*Author: this bears remarkable resemblance to current super string theory. Whilst most physicists do not consider the idea of the 'ether' seriously any longer, towards the end of his life Einstein is supposed to have recanted somewhat on his original outright rejection of the 'ether' concept).*

Mesmer the physician believed that magnets had healing powers and later found that his hands emitted some kind of energy. He called that energy, 'animal magnetism'. He found that the therapeutic effects of his hands mimicked the

effects of magnets but it should also be remembered that he was mostly responsible for techniques involving early attempts at hypnotism, often called 'Mesmerism' which had certain rather fanciful and sometimes, ridiculous claims attached to it. It is easily to demonstrate that some kind of electrostatic field does exist which emanates from the living human body - and presumably from other living entities. Water divination may be just one example of electrostatic field's phenomenon.

Other even bolder claims concerning the human body include the hypothesis that there is more of an electrical component to the healing process than the chemical. An American researcher called Nordenstromm claimed that electricity played a major role in maintaining human health. He proposed that white blood cells identify threats to the health of our bodies by seeking out the intruder through electrical polarity i.e., the white blood cells have a different electrical charge to an inflamed area of tissue and can therefore attach themselves to the intruder to repel it.

He thought that the arteries and veins in our bodies served another purpose than for just carrying blood, food and wastes. He thought that they would also carry electrical currents that could act over both long and short distances with the resultant electromagnetic field being recorded in the iron rich red blood corpuscles. His bold and rather novel claims could mean that there is far more to being a human being than we can currently imagine if he is only partially correct. Perhaps that is another reason why the visitors find us so interesting.

It is easy to see how biologists might consider an all pervading field to explain our world, and it is unsurprising that other branches of science should use the same kind of morphological approach to explain how the Universe might work. Significantly, even with the modern advances of genetic technologies and cosmology, scientists still seek the Holy Grail that will explain everything. When that happens, we should have a complete understanding of the whole of the Creation Cycle, including our current visitors (or any other visitors come to that). The greatest benefit of such knowledge is to predict, manipulate, use and shape our destinies within any future permissible environments.

There is a fringe branch of physics (the word 'fringe' is not meant to denigrate, merely to identify non-mainstream science) bold enough to propose other than conventional explanations for the phenomenon we call 'existence'. It may be helpful to explore this 'fringe' science a little more.

The concept of the graviton (a theoretical particle of gravity) has been around for most of the 20th Century and physicists are still looking for it. In the absence of hard evidence, science usually has to invent a paradigm and then try to prove that the paradigm works and is valid. Whilst classic physics proposes that there is nothing faster than light speed, and therefore all other measurements can be reliably made using this the constant value, it omits to explain why recent measurements indicate that light speed far from being absolute has been shown to fluctuate, not much but enough to cause computational errors - particularly in our emerging space exploration programmes.

Whilst cosmologists still search for the graviton and the gravity waves predicted by General Relativity, other scientists believe that they have already found the graviton, except they call it the ‘tachyon’. It is believed that the so called 'tachyon field' pervades all space (inner as well as outer). For purposes of clarity, this field has also been called the 'graviton field' or the 'neutrino field'. However, it is known that stellar objects do produce neutrinos, but it is not definitely proven that they can produce gravity particles, tachyons or gravity waves. One of the most endearing properties of tachyons is that they seem to be variable particles and are thought to exist on two principle states. One state is at rest and is called 'bradyons' (comparatively speaking as they are thought to be in a constant 'trembling' state) the other state (the tachyon) is in constant movement.

This universal field, the so-called 'Feinberg Field' is generally considered to be a pulsating field, a Quantum Jiggle or Zero Point Energy Field, and many scientists now believe that it is this field that ultimately determines the speed of light. If we can somehow manipulate this variable speed property of light it would make the possibility of interstellar trips possible, especially as it is thought that some tachyons can travel faster than the speed of light (see Notes). It may also make the possibility of unlimited energy possible and it seems likely distortions to the Feinberg Field may be the cause of the production of all electromagnetic energy. The estimated strength of the tachyon field is prodigious and has been estimated to be around 880Mev per square centimetre by the Japanese Professor Seicke (880,000,000 million electron volts!).

In order to fully appreciate the concept of a universal tachyon field, we have to adopt a slightly different view of the classic physics we were taught in school. Adherents of the theory propose that the field is responsible for what is

known as gravitational acceleration and braking effects. This means that when an astronomical body becomes shielded from the field by another astronomical body, it causes gravitational acceleration towards the shielded body. This is then manifested as a *thrust effect not a gravitational effect.*

This unexpected thrust effect was demonstrated experimentally in 1961 by a Hungarian engineer called Magyary who carried out measurements during a solar eclipse. He found that on solar totality the Sun altered the gravitational effect on the Earth. This seems to contradict Newtonian and Einsteinian physics.

It is also conceived that as the tachyon field pervades all space, it has a so-called 'braking effect' on matter when it comes into contact with it. On tachyon 'braking' it is thought that some energy is given up in heat, and whilst some believe this could account for a heating effect by hysteresis or internal friction, the matter remains theoretical in the face of more conventional explanations regarding the internal heating of astronomical bodies. It seems that the natural state of the Universe might be more suitably considered as a sea of quantum possibilities in a particle/field 'soup' rather than an infinite space dotted with knots of matter (see Appendix 2 for a new theory of the 'Big Bang' and the birth of our Universe).

Supporters of the tachyon field theory feel that some of the puzzles grappled with over centuries can now be explained. They propose that the only way in which the existence of the dinosaurs on the early Earth can be justified, is if Earth's gravity was around 0.3g in those times as opposed to the 1g we now experience. This suggests some kind of gravitational shielding from the tachyon field. However, as far as I know, no one has come up with a satisfactory answer as to how that may have occurred although it does imply a far more crowded Solar System during the timescale of the Dinosaurs which is believed to have been from 225,000,000 years ago until their extinction some 65,000,000 years ago.

Perhaps a more reasonable idea is that the bradyons (trembling tachyons at rest) might contain a holographic memory of the entire Universe. That brings us back to Rupert Sheldrake's theory. The implications of which is truly mind-boggling. It means that if you knew how, you could tap into the known Universe anywhere, anytime. All existence (in our reality - but not in other realities and dimensions) would lay open to you and linear time would have no

meaning. It also implies some kind of 'solidarity' and a Universe of 'Mind'. Whether that brings into focus the concept of a Divine Hand at work will not be understood or settled but would no doubt be adopted by many for the sake of comfort. It may also mean all creation is largely predetermined but within a quantum probability matrix which cannot be predicted.

A necessary paradox for the continuation of existence in our known reality - and probably unknown realities as well - can be resolved by concluding that Nature should allow anything that is possible within the overall parameters allowed by itself i.e., *'Everything is permissible except that which is expressly not allowed'*. It is very likely that there are far more unknown parameters than there are known parameters! It is odd that we need to construct such ideas in our brains to start with, perhaps in brain holographic imagery, but then are condemned to only witness our efforts with the aid of extensions to our brains i.e., instruments. Quite how we would cope with this intellectual 'nuclear detonation' must remain unpredictable.

It seems probable that science may have already foundered because of poor instrumentation and the belief in absolutes. It is paradoxical, that without absolutes much of science would not exist to start with. Significantly, since the widespread use of powerful computers has been popularised, we have found it much easier to stimulate holographic visualisation simply because the computer encourages it and demands that you do so. That the visitors can work within the physical laws that bind the Universe and remain outside the boundaries of our knowledge base is puzzling. Could this mean that we have misunderstood basic physical data, or do we have so much more to learn about the physical laws which rule the Universe?

Adherents of the tachyon field theory use the shielding and braking (heating) effect to explain much of what conventional science has long considered settled. For instance, tachyon fields are considered responsible for the internal heating of Jupiter's inner satellite, Io. Io is larger than our Moon which is (2,160 miles in diameter or 3,476 kilometres) Io being 2,256 miles in diameter (3,630 Kilometres). Io is Jupiter's third largest satellite with Ganymede taking first place (3,270 miles or 5,262 kilometres in diameter) and Callisto in second place (2,983 miles or 4,800 kilometres in diameter). Enigmatic Europa, (1,950 miles or 3,138 kilometres in diameter) gets fourth place.

Io is obviously very hot and suffers a great deal of volcanism as NASA has proven via the various Pioneer and Voyager probes fly-bys. For such a small world to be so internally hot is unusual and it is conventionally thought that Jupiter's powerful magnetosphere is responsible for such heating. Astronomers now believe the planet Jupiter is surrounded by a doughnut shaped torus in which Io has to orbit at a mean distance of 421,600 kilometres (261,982 miles).

The torus is composed of energetic charged plasma, known to be slightly inclined due to Jupiter's magnetic field [22] linking Io to Jupiter by what is called a 'flux tube' that carries a huge current of 5,000,000 amps at around 400,000 volts (2×10^{12} Watts) which represents more electricity than is generated by all Earth's nations by a factor of 70! It is not unreasonable to imagine that such a large electrical field would have some effect on Io's heating and volcanism.

However, proponents of the tachyon field theory point out that the heating effect is a direct consequence of the high braking effect of the strong magnetic induction generated by Jupiter on Io from the universal tachyon field. In other words, Jupiter's huge gravitational flux interacts with the universal field in such a way as to cause a substantial braking effect on Io that then becomes internally heated by interception of the field. It would be interesting to note whether Neptune's retrograde orbiting satellite Triton, (1,678 miles or 2,700 kilometres in diameter) being the only other large satellite in the Solar System of a planet other than Jupiter, suffers from the same heating or hysteresis effect as does Io from its proximity from Neptune.

Unfortunately this seems unlikely as NASA's Voyager probes found that Triton is a very cold planetoid at -236º C possibly with frozen nitrogen and methane ice on its surface. Whilst there is no known volcanic activity, there are strange 'ice geysers' which probably eject liquid nitrogen into the almost no-existent atmosphere. Most astronomers now believe that Triton is not a 'natural' satellite of Neptune but was captured from free space by Neptune's enormous gravity, despite its current near circular orbit. It seems that Jupiter and Io have a unique planet/satellite relationship in the Solar System.

In October 1997 the ESA (European Space Agency) Saturn mission was launched as part of the study of the outer planets and their moons. The Cassini mission has been a total success and the Cassini Huygens lander sent back some dramatic pictures of Titan when it touched down on the surface of this strange

world in January 2005. The spectacular imagery sent from the Huygens lander indicates that Titan may have vast hydrocarbon lakes and large internal seas comprised of water and ammonia as well as what appear to be artificial looking structures yet to be explored or explained. This Cassini mission was due to be extended until 2017 and further discoveries about these outer planets and their satellites may provide further insights into gravitation and tachyon fields.

Tachyon field supporters also claim that our Earth gets heated from the braking effect of the tachyon field. Like neutrinos, tachyon particles plough through matter as though it does not exist but given that the field is dense and large, matter will manage to occasionally intervene in the progress of the particle field and it is this intervention that causes the heating effect. This is not as crazy as it sounds as the Earth's core is now thought to be solid, not as a super compressed liquid.

Geologists have concluded that the Earth's core is about 800 miles in diameter (1,287 kilometres) and is of mainly iron and other dense metals. It is thought the pressure at the core equates to about 3,000,000 atmospheres (one atmosphere is around 14.7 pounds per square inch at sea level or 1,117 centimetres of mercury) and is almost as hot as the Sun at 4, 000^{o} to 5,000^{o} C (7,200^{o} to 9,000^{o} F). Geologists believe that the heat is due to the natural radioactive decay of Uranium, as well as the residual heat from its creation.

It reasonable to think there should be some natural radioactive decay of these heavy elements in the Earth's core, but it should not be assumed that all of the Earth's heat is produced in this way. Scientists have recently discovered what they believe to have been the 'fossil' remains of a natural nuclear chain reaction above ground in Gabon, Africa. They believe the event occurred long ago when much more Uranium was scattered around on the surface. Because U235 is becoming increasingly depleted through natural radioactive decay, it is unlikely that such chain reactions could occur today.

For Uranium U235, which contains about 0.7% of natural uranium, accidental fission can be achieved with low energy neutrons if a large enough mass is available together with material that would function as a neutron deflector (around 15 kilograms, 33 pounds of U235). Certainly there would be enough uranium available in a core of 800 miles in diameter. (*As a matter of interest, U238 with 99.3% of natural Uranium can only fission if a U238*

nucleus captures a fast neutron with an energy level of 1Mev or more – 1,000,000 One million electron volts).

Whilst some fissions no doubt take place naturally, they cannot be sustainable (luckily for us) but might we expect to see much more radioactive presence on the surface of the Earth through volcanism over the 4.5,000,000,000 years since the Earth was born? Uranium U235 naturally decays into lead Pb207 over 704,000,000 years (its' so called 'half-life' - see Appendix One) U238 which decays into Pb206 has a half life of 4.5,000,000,000 years which just happens to be the age of the Earth.

Residual heat left over from the Earth's creation does form part of the reason for the Earth's inner temperature as well as some radioactive decay processes. However, the fact that the other stony planets, and most satellites do not seem to share similar properties might suggest that their cores are quite different to Earth's. The fact that Earth seems to have such a large metallic core could explain why it could have become so hot through the braking process of the tachyon field. But...there is a problem. The all embracing and pervading and constant tachyon field will continue to cause a continual heating braking effect and unless there is a mechanism for the energy to be released by the core the temperature will continue to rise. It might be considered that volcanism would provide an answer, but of course, it does not. Volcanoes have no access to the Earth's core. If the tachyon braking effect produces only enough geothermal heat to provide the physical effects we are already aware of, the energy release by the field, even though it may be a saturated field, must be small indeed. Whilst the tachyon field/Feinberg field/Neutrino field/Quantum Jiggle Field/Zero Point Energy Field or Wimp Matrix field may have some effects on massive objects, the overall effect may be overstated.

Even if, as some physicists believe, both families of tachyons and bradyons release energy in what is called, 'elastic relation' in direct conflict with quantum theory. That does not mean of course, that tachyons are of no of consequence - far from it. It looks as though the whole of space is filled with some kind of universal energy rich field. What we call it is immaterial - how it can be used and whether it can be used are the big questions. It is very likely that the visitors have discovered how to tap into this abundant energy source to power their exploration ships, their worlds and their societies.

The all pervading field could be generated by stellar bodies in which case there should be areas of intense field strengths and areas of weak field strengths as stars are born and die. That does not seem to be the case as the field seems to come from every direction at the same time. This seems to indicate that it is a field implicitly linked to the Big Bang at the moment of creation of the Universe. Also, much of the physical properties of stars are already known which points to another source for this mysterious field.

The all pervading field is not one that is currently recognised and remains theoretical at the moment, but it is quite probable that we do not know enough about gravity, its real nature and its propagation throughout the Continuum and that the field might be a consequence of gravity wave flows and a pulsating Universe. Perhaps when we do know more about this so called 'weak force' or the proposed tachyon field we shall be in better position to unravel the mystery.

Recently some theoretical physicists contend that our Universe is not empty space curved in the vicinity of matter, as Einstein predicted. They propose that the Universe is essentially flat. This interesting proposal is outside the scope of this book, but such observations do challenge the boundaries of science. Whilst Einstein struggled to form a theory to explain everything in his Unified Field Theory that sought to explain the physical Universe by linking gravity to electromagnetism, scientists already started to consider the implications of his theory.

'Geons' are massive theoretical bodies necessarily many times larger than our Sun consisting of pure electromagnetic radiation held together solely by their own gravity. These bodies would behave like conventional massive objects, but they would consist only of curved space-time. Scientists have pondered on the thought that possibly all creation might initially consist of curved geometric space-time.

The Universe is thought to have come from a singularity, a point in space smaller than an atom from which all creation emerged in one energetic moment. As though the Universe was spontaneously created from a so-called 'White Hole' the opposite to a Black Hole. It is interesting to speculate that if that was the case our Universe could have been borne as the result of the death of another Universe.

However, there are other proposals that allow the existence of adjacent universes, universal energy rich fields, and a life and death cycle taking into account the whole of creation (see Appendix 2). This alternative view may explain the visitor's presence and the myriad types of life that must logically exist beyond even them.

There is an increasing awareness that all of the reality we know of may just be an implicate part of a greater reality which is hidden from us. All matter, all sub-atomic particles, all energy fields and all matter, could be just broken fragments of a greater hologram with all of these fragments containing the memory of what to us, is the physicality of reality. Perhaps we have known this all along with the knowledge trapped in our human psyche (the famous Jungian archetypes) or perhaps we are just in the dawning process of understanding more about our Universe; shocked into the fresh realizations the visitors bring with them. Whether the visitors are here to warn us of an impending cosmological catastrophe, over population or an impending Earth disaster is unknown. Whether there is some kind of struggle going on between the so-called 'good and bad guy' visitors is also unknown. However, what is known is that it is nonsense for governments to say that they do not know what is going on.

In the case of our own government, the organisations which are set up to look after our national defence tell us that it's alright if alien spacecraft and their occupants come and take a good look at us, and its equally alright if they take more than just a passing interest in our nuclear power plants and our defence systems. They can do what they like as long as they do not take overt offensive action. They can even buzz our satellites and our manned space vehicles, follow us to the Moon and monitor our every move. If they shoot at us, we are told then, and only then would our military be interested. Even worse than all of the above, they can take people from the general populations of the World for individual study and experiment on them with impunity.

That behaviour of governments logically indicates that they are well aware of what is going on and are co-operating with the visitors for selfish and narrow self-interest reasons. In the case of our Government, the general concept of not to shoot unless they shoot at us, indicates that it is well known that they are either incapable of shooting at us, or will not shoot at us because they can defend themselves in other ways, or that a non-aggression agreement exists between the powerful Western governments and the visitors.

From the preceding chapters the reader may have concluded that we know rather a lot about things in general. It is therefore difficult to see how the visitors can be so clearly advanced in many areas of technology. That visitors from other domains are apparently visiting us here on Earth must mean that they know much more that we do about the Universe and how it works. That they have no apparent desire or willingness to openly share their knowledge and superior technology with us also tells us more about their motives than they would wish us to know.

If that is the case, then it is almost certain that the UK has fallen into line with the wishes of the USA as would have other subordinate cultural satellite countries commonly linked by consent or treaty to the American political and democratic style. The Russians and the Chinese may be conducting a quite different agenda, along with some of the other emerging Islamic states.

As more and more people find that they are unwillingly interactees with the visitors it is quite facile for our Government to continually tell us lies and half-truths. It is now time we were told the whole truth even though we shall have to adjust our beliefs and attitudes. Whether we have been helped, technologically along the way, is now immaterial. We have entered another crucial stage. One in which we are emerging from the chrysalis of our history into a new dawn of mankind. We need to know, and we should be told and trusted with the truth. We should not be surprised by the future, or frightened by it. The future exists despite us and at the same time because of us. Without mankinds' hopes and dreams we should not have the good things we have already…we just have to take the risk.

In May 2000 the Daily Mail newspaper printed an article on the Awa Guaja tribe of the Amazon Jungle of Brazil. Quote:

'The Awa Guaja tribe (the name means 'The People') of the Amazon Jungle of Brazil are a matriarchal society where women take the dominant role. The woman Chief arranges marriages, settles disputes and practises medicine. Women in the tribe are allowed to have two or so husbands, while a man is permitted only one wife. The tribe is an animist culture they attribute a living soul to plants and the Earth and the environment is sacred to them. They worship spirits of the hills and rivers around them and they revere a number of gods. The women breast-feed monkeys and the number of infant monkeys that are cared for by any one woman is a badge of status in the tribe. Once the

monkeys are weaned they are kept as pets but the tribe paradoxically kills adult monkeys for food.

Their lack of contact with the rest of the World has caused them many problems, common diseases etc..... Around two hundred and forty Awa Guaja have been placed in four villages in Maranhao State in the Eastern Amazon to help protect them. They are no longer able to lead a nomadic life, but around one hundred remain uncounted by the outside world and continue to roam the jungle. The Awa Guaja tribe are very curious about the ways of the white man. Finding out that they were not alone in the World has made them very dispirited - they were a very proud people.

Discovering that other peoples are so much more powerful in terms of their guns and technology made them feel very small. When they've been on visits to white areas, they have their shoulders hunched around them, as though their spirit has been broken"

End quote. (Italicised section is a quote from Fiona Watson of Survival International)

If we are not collectively to finish up like the Awa Guaja we must ensure that we obtain the real truth from our administrators and not the same old mass-produced stories repeatedly trotted out for public consumption. Now we need to look a little deeper into the workings of the human brain to establish whether or not it may be tricking us into thinking the imaginary is real…or the real is imaginary.

Chapter Nine

Mind versus Brain

Our brain is the only way we interface and react with the world and as we only have one brain, we also have to use it to interface with the imaginary and creative world that, by definition exists outside our rooted, practical reality. To do this we can draw on our personal experiences, correctly memorised or not - the brain makes no distinction and can arrive at creative solutions by either using what might be called 'reality pathways' that is to say non-mechanistic thought processes which can result in what may be called ‘inspiration’.

Scientists are people likely to experience this phenomenon than others as their training teaches them to follow step-by-step reductionism processes to achieve specific results. Conversely, artists and those people with religious fervour may also receive sudden insightful glimpses of inspiration through linking with, what has known to become, the imaginal - the world of ‘un-reason’. Illicit drugs, therapeutic drugs, alcohol and physical illness can also alter brain states as can accidental damage to the brain. All of these brain states appear to tap into this strange dimension of ‘un-reason’.

Another way we can tap into the unlimited world of imagination is by utilising the sensory input/output of other brains. Somehow, we can occasionally set off a cascade of ideas that become truly original. However, in an ever increasingly technologically advanced world it becomes ever more difficult to think of something entirely original, which is not surprising as there are many more brains trying to do the same thing. But it still happens occasionally. Whilst originality may be hard to come by in an increasingly jaded world whilst retaining some measure of normality, we can all experience our own personal 'other realities' in our dreams and fantasies. What actually provides the mechanisms for us to be able to create unique other realities in our dreams and fantasies is not fully understood or predictable, even though a healthy brain is broadly physiologically the same as all the rest. However, *all brains remain individually ‘wired’ by the owner.* The only difference in the way we function and behave should depend entirely on our experiences, our personal model of reality and system of beliefs and identity. There is no such thing as a *normal* brain!

Whilst this can be shown to be the case in the real world, there is no evidence to support a claim that it exists in other brain states i.e., sleep or chemically induced episodes. It is significant that we use very little of our brain's total capacity in order to exist in our 'real' world and whilst our brains crave continual sensory input, little may be actually done with that input in real-time. Our brains constantly redefine the model of reality based on the sensory inputs received.

Carl Jung put up a very strong case for certain archetypes that holds true for many unconscious dream experiences. The way in which we view morality and human sexuality (especially repressed human sexuality and deviant behaviour) religion and a vengeful God, frames the way we think and behave – the so-called 'moral compass'. Perverse and psychologically damaged brains* seem to operate on opposite but equally potent levels as 'normal' brains. Evermore so in our dream states where imagery is everything.

*It is possible that 'damaged' brains have missing Jungian archetypes due to faulty genetic downloading from one or other of the parents. The concept of a free ranging, integrated brain strongly suggests that key features and race memories are physiologically hard wired into our brains. Could it be that this 'hard wiring' extends down to a molecular level and exists as DNA memory? Unfortunately, there is little or no evidence to support that theory at the moment but it supports the archetype theory of Carl Jung.

Much is known about the physical brain, its physiology, its chemistry and the way it works. We know which parts of the brain are activated when particular thoughts are made by using sensitive electronics to monitor synaptic connections as neurons fire in response to minute electric signals. We know that brains can be conditioned to respond by physical stimulus.

We also know which parts of the brain are responsible for particular functions i.e., the Frontal lobe is responsible for personality, the Voluntary motor area sits on top of the brain mass - the Parietal lobe, the Visual area resides in the lower rear of the brain - the Occipital lobe, the Speech centre of the brain resides embedded in the Frontal lobe and Temporal lobe, near the Olfactory area (smell and taste), the hearing area sits on top of the Temporal lobe and the Cerebellum, which controls balance and position resides underneath the main brain mass adjoining the rear Occipital lobe. All of that is connected to what is known as the brainstem and spinal cord main nervous system.

All of the above resides in a physiological healthy, undamaged brain. However, not everyone has a physiologically normal brain but somehow they get along fine without it. An independent television programme screened for ITV on 11th May 1982 somewhat humorously titled, 'Is your brain really necessary?' looked at several patients who were said to have no detectable brain or minimum brain tissue. The very latest brain scanning technology corroborated that bizarre programme title and it was also found that some functions had managed to re-locate to those areas that were active. The publisher of strange facts and events 'Fortean Times' listed three of these strange cases to illustrate the adaptability of our most essential organ.

The first case involved Sharon who had been found to have a huge cavity where brain tissue should normally have resided. This was found as a result of a routine check on a brain fluid valve. The professor on the programme, Professor Lorber said that her brain had disappeared or had become paper-thin in the frontal cortex region. Despite that, Sharon seemed to be functioning quite normally.

The second case involved a patient known as Roger who had only 5% of his brain left. He still managed to get a first degree in mathematics! Apparently, the entire area where speech and feelings are located was absent (frontal lobe). By the way, Roger had an IQ of 126.

The third case was even more bizarre than the previous two. A remarkable patient known as just, Stephen, was seen to be mostly brain absent by holding a light behind his head. His head would then glow like a 'dull goldfish bowl'. Stephen managed to obtain 5 'O' level examination passes and later his brain was found to have 'returned' and he became normal.

People have survived with no discernible brain whatsoever, mostly crippled from birth by hydrocephalus in which fluid takes up space in the cranial cavity (otherwise known as dropsy of the brain). It seems the brain, but perhaps more pertinently, brain cells have a remarkable propensity for adaptation and survival. Whilst we would not expect one of these physiologically damaged brains to exhibit the same integrated performance of a normal brain, it is clear that the higher functions involved with imagination and visualisation still somehow work in the case of Roger and Stephen. So, perhaps we should look elsewhere for these essential functions.

As it is reasonable to conclude that most (if not all) UFO witnesses, and more pertinently abductees, have physiologically normal brains and normal sensory input otherwise they might not be able to relate their stories in any coherent detail. But first, we should make an attempt to try and understand more about the subject of imagination. Most scientists would agree that all human experience is brain centred and therefore cognitive output must emanate from the brain's response to external stimulus via our five senses.

In the case of 'special' sensory input i.e., transcendental meditation - psychotropic drugs - dance/trance - ecstatic religious experience through prayer or chant - or brain disorganisation through illness of damage - responses should become map able as standard models and there should be little deviation from that standard model as our brains are all physiologically the same.

Whilst some of the above activities could be mapped in that way, there are some experiences that seem to tap into unknown areas outside the brain i.e., the mind, the collective unconscious etc.... The mind may exist because of the brain per se or, as some eminent people have suggested, *in spite of it.* A permanent feature of a suspected grand 'reality' which we believe we have no direct access to whilst we are living entities, but which exists permanently outside us as an intrinsic part of the continuum. It has often said by UFO abductees that their assailants exist on this level of existence...in their dreams...in their imagination... or deeply embedded in their psyche.

Many victims of alien abduction share much of their ordeal with the symptoms of the conditions known as OBE and NDE (**O**ut of **B**ody **E**xperience and **N**ear **D**eath **E**xperience respectively). For purposes of clarity, the NDE usually starts with an OBE - the two are not mutually exclusive. Whilst it seems that many people experience an NDE whilst actually being near death e.g., a cardiac arrest, you do not have to be ill to have an NDE and it can happen anywhere...anytime. However, most NDEs and OBEs seem to occur in rest states when the subject is in bed. Other NDEs or OBEs may occur through violent accidents, difficult childbirth, emergency hospitalisation etc. NDEs or OBEs can result as a consequence of any life-threatening event even where major trauma does not occur.

In their book, [23] Peter and Elizabeth Fenwick study a number of cases and their subsequent analysis. There is some resonance with the alien abduction

scenario. Differences do occur, of course, and they are self-apparent but I think we can usefully compare much of the essential data.

An American psychiatrist called Bruce Greyson blueprinted a typical NDE in which the experiencer seems to 'see' and 'feel' various aspects of what is happening to them. Whilst many people who experience NDEs usually do so in what they perceive as an 'ethereal' physical body, some people do not need a 'body' and can exist in this state as an energy field, a homogeneous mist, a vibratory light or anything else they imagine.

The *first effect* noted is that of a serene peace with all the physical sensations of pain gone. In the case of an abductee incident some abductees report similar feelings of peace but it is probable that the abductors are manipulating the victim's brain through an artifice or control technique. In an NDE the brain is reacting to abnormal circumstances by releasing endorphins into the bloodstream to blunt sensory input.

The *second effect* of a typical NDE is the OBE experience. The subject finds that they are floating above their physical body and can see their body, still and apparently lifeless, below themselves. The UFO abductee can experience this, but is usually 'helped' by a small crew of abductors in this stage of their transportation. Sometimes a 'beam of light' is used to transport the victim to a waiting craft. It seems that the UFO abductee is taken far beyond a simple OBE experience.

The NDE *third effect* concerns the subject entering a tunnel. Usually the tunnel is dark - it has been described as velvety black and soft - but sometimes the tunnel is just light. At the end of the tunnel there is a point source of bright, but not blinding white or golden light that is approached without effort, the circle of light widening as it gets nearer. UFO abductees do not usually report a discrete tunnel effect. In non-Western cultures the tunnel is often replaced by bridges or rivers that have to be crossed, sometimes the NDE is accomplished just by walking down a road. All of these are depictions of a personal allegorical journey that must be undertaken to get to the dimension of the NDE.

The *fourth effect* concerns the being of light. In a typical NDE this being of light could be a religious figure, or it can be a god-like presence, which radiates perfect peace and love, an ineffable sensation of bliss. UFO abductees sometimes report seeing beings of light and such beings are said to be associated with the 'Nordic' types. Abductees who come into contact with these entities

claim similar feelings of ineffable peace and love and an almost overwhelming longing to stay with them in spite of the fact that they are eventually told by their abductors that they must return to where they came from.

The *fifth effect* concerns the NDE barrier that the subject knows must not be crossed if they are to return to their living body. Sometimes, the barrier may be a physical obstruction like a gate that can be opened, or the barrier may be 'felt' more than seen... non-physical or implied. The UFO abductee does not usually detect a barrier from which there can be no return (which probably represents an imaginary visual allegory of choice whether to stay or return to the imperfect but familiar). Strangely, the imagery is always portrayed as perfect in every detail. In most every case, with the exception of certain 'Nordic' episodes, the UFO abductee is scared witless by their experience once it is remembered.

The *sixth NDE effect* is concerned with the subject glimpsing or travelling to another country. A perfect place, but sometimes not quite how they would describe their idyll. Some UFO abductees experience very similar visualizations, except invariably the places they 'see' bear little relation to any of Earth's landscapes. If they do 'see' Earth, it is usually depicted in a catastrophic scene of global destruction. Some abductees claim they think they have been shown the future, but it is more likely they have been shown such awful scenes of destruction to study the subject and use the given response. *(Author: earlier in this book I postulated that aliens may have shown the witness a vision of their own home world being destroyed. However, in this aspect of the NDE effect, the vision of a shattered world may be a method of re-enforcing other aspects of the abduction initiation to be used later in a timescale set by the abductors)*.

The *seventh NDE effect* is concerned with people seeing their dead relatives or friends, some of whom may still be alive. They also see strangers whom they do not know and have never seen before - this is a very common aspect of the UFO abductee scenario. Abductees do not usually see their dead relatives (sometimes they do) but they do occasionally see friends, acquaintances or just people they have seen in their immediate neighbourhood. On many occasions, they will see people they do not know and who are strangers. Mostly, there will be little exchange of conversation in the abduction event unlike the NDE where people seem to carry on conversations with dead relatives much as they would if they were alive even though they may have been deceased for a number of years.

The *eighth aspect* of the standard NDE concerns the so called life review in which the subject feels that they have to be brought to account for what they have done in their lives. Sometimes, they just get their lives flashing in front of them - many of us have experienced that effect without the full blown NDE when we experience times of extreme stress - occasionally they are told that they have a mission to fulfil and must go back to fulfil it, being the main reason for returning. Most times, the subject becomes frustrated because they cannot remember what their task was. On other occasions, they are shown glimpses of their personal future. The UFO abductee does not usually relate the fact that they have seen their lives flashing before them and that they are being brought to judgement for their dissolute lives. But, they are very often given a task to complete and usually, will have no idea what the task is when they finally return home. Of course, the 'task' could be just another artifice to gauge reaction from the victim.

The *ninth aspect* is concerned with the person undergoing the NDE to make a decision as to whether they stay in the new place or whether to return to their physical life. Often, this decision seems to be left up to the subject who may consider it is just not the right time to go, or they may have a family or dependent children who rely on them in this life. It is often very difficult for the subject to make the decision to leave, as they want to stay more than anything else. Sometimes they are sent back by the being of light or persuaded to go by their relatives in the knowledge that they will always be waiting there for them when the right time comes. The UFO abductee usually has no choice when they leave the place of their abduction. They are either taken back by the 'helpers' (entities which perform porterage and menial duties) or are beamed/floated back from where they were taken. The being of light may still feature if the event included the Nordic type entity.

The *tenth aspect* of the standard NDE concerns the return to the physical body. Typically, the subject will be returned to their body very quickly and a sensation of snapping or slamming back into their body from the tunnel gives the impression of an unsettling and uncomfortable shock of an elastic bungee type action.

The UFO abductee may experience a similar snapping back sensation when they are returned, but more often they eventually awake in their beds with no immediate knowledge of what has happened to them, confused by a number of physical traces which, can include blood spots on pillows, sheets, wet bedclothes

from being outside their homes, missing bedclothes or other anomalous features for which there is no rational explanation.

The *eleventh aspect* of the standard NDE is perhaps the most important and lasting. It concerns the aftermath of the event. Most NDE subjects will view their experience as a life-changing event. It may alter their thoughts and feelings about their inevitable death, the existence of and the immortality of the soul. They will live out the remainder of their lives valuing and seeing all life more vibrantly, more purposefully. Some, who are not religious, may find religion; others may find their faith has been strengthened. Some will believe they have psychic powers, like precognition or healing capabilities. The UFO abductee may also feel that their experience has been a life-changing event and the religious aspect may be replaced by a warm feeling that the human race is not alone in the Universe. Many abductees will feel that they have benefit psychically from their experience and some will demonstrate healing or precognitive powers. Others come out of the experience with dread and foreboding. They may feel powerless and frightened with a sense of terrible isolation because they cannot tell anybody about their ordeal as no one will believe them. Some victims face isolation even from within their own families.

The psychic awakening may not be as a result of direct positive interaction with their benevolent abductors. It is but more likely to be as a result of an awakening of a natural, but lost attribute not usually accessible to us as a result of the overall experience. Awakened by technology - or by just being confronted with the impossible? Many victims of this unwelcome attention will sense outrage, anger and frustration on a number of different levels that can never be satisfied. Whether or not any of the described eleven aspects of the standard NDE is objectively real or an idolum created by a brain in crisis remains unknown... even by the experts. The subjects usually view their experience as a real event, as unlikely as that may seem. The UFO abductee may or may not view their experience with equal conviction. While clear similarities exist in both the NDE and the UFO abduction, the latter can usually provide more than allegorical evidence.

The brain may use an essentially holographic process (see Appendix 1) to create complex imagery and we shall come to this later. It is entirely reasonable to think that it will use the same process when it is in crisis by suspecting the body is being threatened by severe damage or possible extinction. In that case, both the NDE and UFO abductee visualisations become real, and are real to a

brain that Nature has programmed to survive. However, the subject's floating sensation down a tunnel in a classic NDE together with all the other symptoms must be due to brain activity alone. Quite how that occurs is still being researched and debated. One explanation of the NDE hallucinatory effect is concerned with a well-known condition called anoxia. Anoxia occurs when the brain is starved of oxygen. Dr Sue Blackmore suggests that lack of oxygen will cause random neural activity throughout the visual cortex giving the impression of many bright flashing lights in the middle of the visual field.

The reason that this occurs in the middle of the visual field is that the eye has more active cells in centred vision than in periphery vision and it is thought that this physiological attribute will give rise to an impression of a bright light at the end of a dark tunnel. As oxygen levels are further reduced, the brain's activity increases so the bright centre will get larger and the subject will feel as though they are falling at speed towards the light. The eyes themselves are not affected by anoxia, as they are not 'seeing' the light. The 'light' is a hallucination, generated in the subject's brain.

If oxygen levels are restored to normal, the subject's brain will stop random neural firing activity, the light will dim and the sensation of returning back down the tunnel will occur. But this explanation cannot be the whole story as people regularly 'see' beings of light and quite often, the walls of the tunnel in which they are apparently being transported also can be made out. The beings of light of course, are common features of NDEs and alien abductions.

Another problem concerns the fact that many subjects who experience OBEs or NDEs have not suffered any condition resulting in the brain being starved of oxygen, but still present with the classic symptoms. There are other conditions which could cause the subject to see what they might describe as 'beings of light' resulting from the use of drugs or a condition known as hypomania. Hypomania is a mild form of mental illness linked to the elated phase of manic-depressive psychosis. Whilst the brain under stress may be firing neurons randomly to produce the effects Sue Blackmore has described, it still manages to maintain its higher functions intact, and the subject remains aware of their self and their wants and needs. How else would they be able to make the decision to return to the familiar world?

In the NDE experience many people regularly record seeing three beings or people. It would be interesting whether this pre-occupation with 'three' is

carried through to the UFO abductee's experience. In Western culture we are conditioned to think in 'threes' i.e. the Father, the Son and the Holy Ghost, three blind mice, Cinderella and her two ugly sisters' et al... It seems this is likely because we have been conditioned in 'threes' but there is the interesting possibility that 'three' is somehow hard wired into our brain.

Many NDEs occur when blood pressure falls. Whether that is true of UFO abductees is not known. However, the abductee is usually taken from their bed when their pulse rate is slow and blood pressure is regulated for sleep. The dreaming brain has a method of inhibition that stops the body from acting out the dream. For example, if you are dreaming about running a marathon your brain will create a 'real' holographic mental image of you running and the sensation of running. In what is known as an 'awake' state, the same brain will cause your legs and body to run by sending the appropriate signals to your muscles. In some rare cases, people will awake suddenly with their muscle inhibitor still switched 'on'. In that case the person will experience the somewhat frightening condition known as 'sleep paralysis, where you are perfectly awake, but unable to move.

In sleep the inhibitor function is essential and obviously you cannot act your dream out and whilst you may experience some muscle twitching etc.... you will not act out your dream. This is fortunate, because we often dream violent dreams. Rarely, the system breaks down and we sleep walk or do things we have no waking memory of. Whilst that may fit some UFO abductee's accounts, there are usually many other aspects to consider particularly with regard to physical evidence and repressed trauma.

The Fenwicks relate one incident in their studies which involved a man who was 'sent back' to carry out a task which was not specified. He got to 82 years of age and still did not know what the task was that he had been given. However, thirty years after his NDE he witnessed a 'very special atmospheric phenomenon' that he researched for the past thirty years and he now knows that was in effect his task. It is common for people to believe they have been given some gift of knowledge or sublime 'truth' by beings of light whilst undergoing an NDE. Unfortunately, they can usually only remember fragments of what they were told on return to their bodies much in the same way we can only remember fragments of our dreams.

A common factor of OBEs, NDEs and UFO abductions concerns the subject's perception of time. Time runs slower for the subject and that means that paradoxically, 'real' time is running much faster than normal. Time is somehow compressed, distilled and at the same time, extended. With all cognitive reference points absent the brain does not ‘know’ where it is in time. However, it may also suggest a dimensional shift, whether that is real or perceived as 'real' by a brain struggling to comprehend what is happening to it is unknown. Most witnesses of NDEs and UFO abductions do find that they have undergone a transformative experience due to the overall strangeness of the event...whether or not it is welcome.

NDE subjects and some UFO abductees feel that they have come out of their experience better for it and have been 'given' a gift of psychic knowledge. Whether events actually cause this psychic awakening or whether it occurs due to a prompting of latent psychic ability is not known. Analysis might show that there is a mix of both routes to psychic abilities. It may be significant that some people obtain psychic powers following accidents involving serious head injuries.

It seems that the right frontal lobe may be responsible for psychic activity for humans. That lobe seems to be the main interpretive centre that the brain uses (in a fully integrated and physiologically normal brain) to allow a person to make sense of the world. However, as previously discussed, the brain is perfectly capable of process re-location if necessary so damaged brains may still possess a degree of capability even though they may not be capable of the normal functioning. In other words, this crucial aspect of interpretative cognitive perception is meant to be permanently resident and hardwired into us. It is not transitory or virtual.

As we have already seen, research has shown that not all people who have an NDE are near to death. Children also report NDEs but their NDEs are usually unsophisticated and are mainly concerned with the Bible stories they have been taught. But in one case the Fenwicks relate the story of a thirteen-year old American girl who nearly drowned and had what was thought to be an NDE. She related how she had 'seen' her dead grandfather, Jesus and Father, and two young boys which she thought were souls waiting to be born.

The UFO abductee also occasionally reports seeing the same apparitions and there are distinct similarities in the religious aspects of the NDE and some

abductee stories, particularly the sight of 'souls waiting to be born' (in that respect, the 'souls' waiting to be born can be interpreted as hybrid children - half alien, half human). The fact that a developing child's brain can experience an NDE or relate the events of a UFO abduction, supports the notion that the cause of some but not all of these hallucinatory episodes may be hard wired into our brains.

It is thought that the brain receives what, is in effect, coded responses from our sensory input via our five main senses. The brain then decodes this information and processes it according to what it perceives as being 'correct'. This is done much in the same way that a computer receives data input in the form of say, keystrokes which software might interpret as letters and words. In the former process, the system is what is known as analogue (a process which uses variations of electrical potential to register changes in proportionality), in the latter it is of course a digital process which is faster, has more capacity and is much more reliable for processing data. However, it seems that the analogue model far exceeds the capacity of the digital model for originality and creativity due to feedback and cross-fertilisation.

If a physically damaged brain finds that it cannot process the input it is being presented with, and for some reason it cannot work in an integrated way, it will try to process the information using other areas which may be normally dedicated to other purposes throughout the brain's evolution in that body i.e. the synaptic responses have been 'learned' by the brain and particular synaptic pathways have become cemented by continual use.

(Author: This explains why old brains seem to have excellent long-term memory but have very poor short-term memory. The old brain has difficulty in creating or maintaining fresh synaptic neural connections whilst its cemented synaptic connections remain intact).

There is a strange condition known as ‘synaesthesia’ in which processed sensory input can leak to another area of the brain and can cause bizarre effects. Sounds may be seen as colours as well as being normal sounds. In normal circumstances this leakage does not occur because the brain is operating in an integrated way. If there is no sensory input at all i.e. if the subject is denied sight, sound, smell and touch the brain will still continue to produce (or *attempt* to produce more correctly) its model of the world. But it cannot do this for

long. A brain starved of all sensory input will become disorganised and will eventually become permanently psychologically damaged.

In a normal waking state the brain's cerebral cortex is connected to all the senses, in ‘real’ time. But in a dream state with most of the body's musculature shut down, the brain still records sensory input and most of us can recall feeling cold or too hot and waking up to see to it - in this 'stand by' mode the normal brain will continue to protect its body. Neurologists now believe that if certain cognitive areas of the brain i.e. the right temporal lobe, becomes damaged the brain will have distorted functionality on the reality plane (the awake mode) and the dream state.

One way this distortion can be manifested is that the subject's visual cortex becomes dysfunctional. Family and friends may become unrecognisable in dream states and familiar things may lose meaning through the lack of recognition and naming. The UFO abductee may experience this confused state during the abduction itself but may only result in a fugue that passes after the victim has had time to recover from the event.

If a person is deeply unconscious because an anaesthetic has been administered, say in the case of a surgical procedure, the brain operates on basic functionality with essential maintenance centred in the brainstem. It does not have the capacity or need to develop a model of its world reality. But rarely, some patients still manage to ‘float’ out of their bodies and see what is going on around them; they can hear conversations but cannot interact. After the procedure they can surprise their doctors by giving them a running commentary of what happened whilst they were under deep anaesthesia in which they should have no knowledge of at all. The UFO abductee experiences a similar cognitive state linked to a general paralysis in which free will is suspended and where they are shielded from reality.

Logically, the patients described cannot be unconscious but surely they must be if they remain helpless whilst under the surgeon's knife? The process through which this occurs is not understood, it suggests what religion has been saying for centuries - we do have a soul or a bodily counterpart which normally resides fully incorporated into our bodies but this 'essence' can leave the body temporarily under certain circumstances and then permanently when the body dies.

Confusingly, some UFO abductees have related that they seem to experience this strange effect of both body and 'soul' or just 'soul' being taken. There is a strong implication that this effect is the result of a definite physical and external cause in both the NDE and UFO abductee case through technological or chemical stimulus.

Our brains constantly re-adjust our world-view of reality without us realising. The Fenwicks aptly cite the example of a caged dangerous animal. We might view the animal close up and even if it roars at us we know it poses no threat. Take away the bars of the cage and it is another matter altogether! This constant re-adjustment of our personal realities that we tend to take for granted can be disrupted by drugs, physical damage or other influences (which we shall come to later) that will cause discontinuances in the synthesis of our own personal reality models in the right temporal lobe. This kind of discontinuity unfortunately also affects lucid memory recall.

In both the NDE case and the UFO abductee that is unlikely to be a total solution or an explanation for events. Whilst it is well known that hallucinogenic drugs can produce certain mystical effects, oxygen deprivation will rob the brain of its ability to produce a reality model as well as starving the rest of the organ of oxygen so the brain will have no memory of the NDE or abduction to tell. So, oxygen starvation in itself is unlikely to provide a solution.

It is known that carbon dioxide poisoning also produces disturbances in normal brains. These are not thought to be the same processes that might produce an NDE and will have no relevance to an alien abduction. However, the hallucinations perceived via chemical stimulation, fevers or acute psychotic conditions such as schizophrenia are not the same as a classic NDE as spontaneous events which can happen with little warning. A damaged brain not operating in a fully integrated manner seems unable to produce the NDE effect. As far as the UFO abductee is concerned, it might be assumed that some victims may be suffering from mental disorders before their abduction but these cases should become self-apparent following just cursory analysis. There seems no attempt by the abductors to screen out such people so it is assumed imperfections in that area does not affect their agenda or purpose.

Some researchers claim that endorphins may play a role in NDEs or OBEs. Endorphins are the body's natural opiate produced in the pituitary gland that has

a similar effect to morphine. It produces the so called 'feel good' factor, athletes and sportsmen/sportswomen often experience the effects of addictive endorphins following rigorous exercise or dangerous activities in which they risk possible physical injury or worse. The brain tends to release endorphins quickly and the chemical effects subside over a period of hours.

Whilst that may have little bearing on the NDE or OBE it does have some bearing on the UFO abductee who will be suffering a very stressful event. Sometimes bad enough to cause post traumatic stress which can largely go untreatable because the victim may feel unable to talk to anyone, or go anywhere to unload their dramatic experience to a sympathetic and understanding ear. Most times that's all UFO abductee victims want. An abductee conscious of their abduction, will have had a flood of endorphins released by their brain into their bloodstream due to the trauma of alien contact, but the victim cannot get the 'feel good' hit due to the unbelievable weirdness of their experience. In most cases their experience results in terror – not exhileration.

During the time a victim is being worked on, they might feel as though they are somehow insulated from what is going on around them. The brain switches 'off' and rejects what it cannot make any sense of. This brain state is known as a 'dissociative' state. Two common dissociative states are called 'depersonalisation' and 'derealisation'. The former term describes a condition in which you may feel normal but the world feels unreal. The second term is where the world seems real but you feel unreal. These dissociative states are very common in the abductee scenario.

In the UK it has been said that one in three people claim to have had a mystical experience where they felt that something of a distinct higher order was happening to them. That does not mean of course, being abducted by aliens, but it does mean that a very large number of people have a propensity to create right temporal lobe models of their personal reality outside the mundane. Why that should be is as yet unknown.

The Fenwicks point out that a 1988 US Opinion Poll Survey indicated that two thirds of people thought they had experienced a mystical experience. Extrapolated, that means a very large number of people. Perhaps predictably, it was found that those who practised regular prayer or meditation were more likely to have a mystical experience but oddly, active churchgoers would not.

If, as it seems, the brain is just a parallel processing electro-chemical analogue chemical factory/warehouse, there seems little possibility for a soul or a mind. Neurologists know that a healthy undamaged brain is just a piece of fatty meat, a complex collection of billions of nerve cells connective in countless numbers of ways, ideas and thoughts synaptically cross firing and ranging throughout an integrated brain continuously for all our lives. They also know that a healthy brain has discrete areas which are set aside for particular functionality, but equally they know that in the event of damage the brain can, to a degree, repair itself and re-route much of the processing power it has lost to other undamaged areas.

There is a theory called the 'Transmission' theory. The theory proposes that our brains are just there to process sensory input. That the brain is incapable of creating what we have come to term 'consciousness' internally or that it can transmit this 'consciousness' outside the confines of its home, our craniums and our bodies.

Scientists would not concede that the mind is a separate entity from the brain. After all, what they see is a piece of physical architecture which whilst amazing in itself, can be categorised as no more than a biological collection of nerve cells which have organised themselves over eons of evolution into a discrete functioning complex system. A separate mind or soul can have no place here.

Consciousness does exist, we all know that and we usually share a common view of our world. A common world-view which we know exists, but one in which we still find room to modify personally to remain comfortable in our own lives. If there is a separate mind or soul that can exist as a result of consciousness that could mean the mind or soul is complementary to our brain and as a result must die with us as our unique personality must also die. In unconscious states, whilst the physical brain remains in the body, the mind or soul might range free within the electromagnetic soup that pervades our planet. This brings us back to Rupert Sheldrake's theory of Gaia and his creative morphogenic fields. However, I admit to preferring the concept of a holographic perception of reality in which even the smallest part of the Universe (and us of course) forms an integral part of the whole. The only difference is scale.

The transdimensional state of matter and quantum interchanges are not understood fully enough to project a conclusive argument for much of what we

experience in our collective reality...the physical world. But our visitors will have that knowledge and know if we are correct or not. A brain in crisis, whether it is undergoing an alien abduction or whether it is a dying brain, may experience random cross firing of neural transmitters across the temporal lobes. These cascading firing sequences affect the seat of our sight, hearing and emotions because these areas are powerful, essential component parts of the brain.

The visitors will already know how our brains work and may wish to induce temporary hallucinatory responses to mask their work. We already know of what is called 'screen memory' where objects or entities appear as something strange but familiar to us so that the real image is hidden from us. Recorded examples have been metre high owls, animals and of course, the famous rabbit ex-President Jimmy Carter was supposed to have seen on the golf course. Screen memories are a re-occurring facet of many UFO abductions.

Recent passive experiments with the brain has revealed that magnetic stimulus of the temporal lobes does induce all manner of hallucinatory responses including floating in dark tunnels with a bright light at the end. The research has also shown that subjects may 'see' strange landscapes, have unseen (or seen) companions, in short most of the NDE experience. What that means in detail is uncertain. However, it does indicate that the NDE and possibly the OBE is a product of particular neural cross-firing patterns occurring in the temporal lobe area of the brain.

I can imagine any serious experimenter would not claim that the standard NDE or OBE occurs through magnetic stimulation alone, what the experiments show is that the brain can be induced to make specific chemical responses to fire specific sites of neural transmitters. This is particularly true of the brain's temporal lobe area.

Where does this leave the UFO abduction victim? The reader will have discovered in this chapter that there are many similarities to the NDE and OBE experience which many people have gone through. But the abductee is different to the essential NDE and OBE and may have physical proof of their traumatic experience which the NDE and OBE subject will not of course. All these events are essentially brain centred or cognitive events - how else would we know of them? They derive from a person's imagination or as a result of a real event - there can be no other explanation.

Much of the shared similarities occur because all our brains are constructed in the same way and in that respect, using the computer metaphor, we all have the same hardware. The software is our programming, our culture our backgrounds and upbringing. That is what colours the world for us, gives us the inspiration and sometimes, courage to carry on living. Unfortunately, it seems these human qualities have no interest for the visitors.

In his book, The Holographic Universe Michael [24] Talbot relates the fascinating tale of research into the human brain and the notion that we are all part of an integrated reality that has no definitive boundaries. Much of the research might be viewed by some classical physicists as heresy, but as someone once said - 'All the best ideas start as heresies'. Much of what Talbot has uncovered may have deep relevancies to the visitor experience and will inevitably cause us to take a very different view of our familiar comfortable thoughts about ourselves, the Universe in which we think all creation exists, and the existence or otherwise of a creative force we think of as God.

Earlier in this chapter I touched on the possible non-location of particular brain functions, notwithstanding the fact that it is generally considered that certain areas of our brain seem to have become dedicated to specific tasks. This non-locality of brain function has been known for some time and one American neuropsyhiologist, Karl Pribram found through his research that it was possible to remove a large proportion of a primate's visual cortex without the expected impairment that you would might think would result from such drastic action.

This led him to suspect that vision, like memory in the brain was non-local and that visual sensory input was routed not directly to the visual cortex, but was firstly filtered through other parts of the brain which may cause us to occasionally not see things which do not coincide with our conditioned expectation of reality. 'Seeing' is a brain function, not an optical one. He considered that this non-locality of function could be likened to a complex holographic representation in which the brain somehow uses its cognitive functions to interpret reality. Confirmation that the brain was functioning like a hologram came later when he found out that special cells in the visual cortex respond only to specific stimulus i.e. these so called 'feature detector cells' may only register vertical lines, horizontal lines, curved lines etc.... thus building up a matrix of individual signals into a whole set of visual frequencies, much in the same way two laser beams will create an interference pattern. The brain then

somehow decodes these patterns to enable us to see an object as we view it. This means that the world and everything in creation may not be as we view it. Our brains have developed in such a way as to mask actual reality from us, deceiving us so that we settle into our human view of Nature.

One of the more disturbing aspects of quantum physics concerns the notion that sub-atomic particles only seem to exist when we attempt to observe them. The experimentally proven fact that interconnectivity existed between particles at the quantum level (see Notes. tunnelling effect) indicated that Einstein's Special Theory of Relativity was being breached as some sub-atomic events suggested that faster than light speeds would have to be considered. However, Einstein was reluctant to countenance the possibility of the absoluteness of light speed being compromised. But Neils Bohr (Danish theoretical physicist and Nobel Prize winner) stuck with his view that there was an essential inter-connectiveness in the sub-atomic world.

Physicist David Bohm went much further. He considered that whilst quantum theory opened up a whole new way of looking at the material Universe, it seemed to be incomplete in many ways. Classical science would have us believe that the whole is the sum of its parts; but in the application of quantum theory the opposite appeared to be true - the whole somehow influenced the parts of which it was made up, *as though the Universe was a kind of living entity!* Could quantum processes be operating in our brains?

It seems that our understanding of the Universe depends entirely on where we are when we view (or think about it) and each one of our perspectives are, in fact *not different realities at all but only aspects of the same reality viewed differently*. This is a very important point and is essential to the concept of non-locality. In that respect, it allows us to begin to understand the implicate Universe better and thereby the intelligences it must contain.

Bohm considered that ordered and disordered states do not exist per se only orders of an indefinitely high degree exist. We tend to satisfy ourselves by understanding how physical systems interact without generally knowing the true nature of those systems. For instance, we do not know what an electromagnetic field actually is but we do know how an electromagnetic field reacts with other systems. These states of being provide the fuel the physical world needs and causes it to produce a constantly shifting subliminal hidden low-level system in which its internal interactions are manifested to us as ordinary reality.

In another way, reality as we know it *does not exist*. At this sub-atomic level the number of possibilities available to 'cement' a result in relativistic space-time is only defined by the infinite number of probable outcomes. When we try to interact with the sea of probabilities our brain seems to affect the outcome and reality may become what we might expect but the same process also determines what shall remain hidden to us as probabilities ourselves...a strange and difficult concept.

Bohm brings us to a mystical, but at the same time a very scientifically grounded view of reality in which he believes our reductionist view of Nature may actually cause the many dysfunctions of mankind's many civilisations. His concept of the 'whole' concludes that we are doing things incorrectly on many fronts that could ultimately cause the extinction of our species. Our visitors could already be very well aware of these dangers to us if he is correct.

Talbot reminds us that Pribram's and Bohm's theories indicate the brain, to paraphrase him - *is developed to automatically unscramble what we perceive as sensory input but which amounts to myriad frequencies from other dimensions beyond time and space by the process of mathematically constructing objective realities. In that respect the brain is a hologram enfolded in a holographic Universe.*

This holographic model of our brain and the Universe does seem to support many of the unresolved matters which mainstream science has had little time for. Telepathy, precognition and other like subjects all point to a Universe which is implicitly interconnected in all parts and, more importantly as a concept to consider non-locality. Bohm considers that consciousness resides in that implicate structure and, as we are part of that scheme ourselves...we are all connected to it whether we like it or not.

However, consciousness may operate on different levels and quantum probability effects may deceive us into believing that what we get through our senses is the objective reality. I think this is unlikely and whilst it is futile to argue against a Universe which appears to us as gross matter, we are aware that most of what we call 'matter' is mostly empty space consisting of electric fields even though we do not fully understand it. Consequently, what we experience is coded in such a way so that we may exist within it and therefore it must be a subjectively consensus illusion with us being an integral part of that illusion.

The holographic model does not explain why it sometimes takes actual physical brain damage to achieve a connection with the implicate consciousness or why some people are better at connecting with it than others. Our brains may still be evolving. This may have an implication for some UFO abductees who seem to have a greater propensity than others for being abducted. They may not be as random as might be generally considered and suggestibility could be a factor. Serial abductees may run in families, where selected individuals from generations of the family are taken over long periods of time.

Some scientists believe that the holographic model may also explain the NDE phenomenon and that death itself may merely be a person's shift from one hologram to another, which amounts to a dimensional shift of reality - remember that subjective reality will only depend where you are standing in respect of the unfolding probabilities according to quantum probabilities and a constantly shifting holographic Universe. In that respect, other subjective realities will remain hidden to you as indecipherable interference patterns *(author: If you could see the process actual reality has no meaning because by observing the process, you are causing it to come into being and therefore making it a subjective reality. In effect you would be witnessing an illusion as an illusion).*

For example, in our conscious world, a mountaineer standing on top of Mount Everest will possess his own immediate subjective reality which will be his view of the Himalayan range and its scenery. His reality is dissimilar to that of someone lying under a palm tree on a South Pacific island. Both people will legitimately have their own reality models of the same Earth, both views of their reality are right and equally valid but both would be wrong in their view of the World to an astronaut who at the same moment in time, is walking on the Moon.

Whilst all three subjects will have a consensus objective reality model of the World they will each possess a quite separate subjective view of their world at that time because of their individual circumstances. However, at the sub-atomic level of Nature, none of them can have any objective knowledge for the reasons already outlined. By definition, all our realities in our world of gross matter are therefore subjective. In a holographic Universe there is constant movement and change, swirls and counter swirls of interacting frequencies in many dimensions. There would be effects of augmentation, damping, chaos and order all held together by myriad incalculable quantum probabilities. The holographic universe provides the astounding possibility that many fixed

universes can co-exist contemporaneously. That implies the past, present and future may all exist at the same time and actually be pre-determined!

But we do not just blindly act out our existence - we suspect and hope that there are choices that can be made. For instance, at the last minute we may not take that plane trip due to a change of plan or more uncommonly, because of a premonition. Then the plane crashes and all passengers die. A puncture in a tyre may delay us getting on the motorway only to find that because of the delay we have missed a serious motorway pile up.

Many of us have experienced these strange co-incidences at some time. Surely something is at work here? An incident like this suggests that the plane crash or motorway pile up is already in the future and somehow we have subliminally managed to get a feel for that future which has saved our life – could it be our brain that is responsible for the insight or, is it because of something that comes from *outside our brain*?

This somewhat depressing pre-determining aspect may not be as set in concrete as you might imagine. Whilst the system of holographic multi-dimensional universes may be fixed in themselves, they could be sufficiently free floating in a sea of quantum probabilities waiting for sensory input to provide a finished temporary probability model in a fraction of time we call *our reality*. In our world we do not notice the sub-atomic quantum uncertainty effects that are taking place all the time, and scientists have concluded that whilst they no doubt occur, they have no actual meaning for us. However, the reverse may be true in respect of the fact that we find ourselves in a reality that so beneficially suits us. In a world given over to quantum uncertainties we should find more evidence of chaos than order and it seems therefore that 'order' may have to be triggered by a series of events that includes some kind of blueprinting or algorithm to set our reality in motion and keep it on track.

That sensory input or algorithm could be an intelligent consciousness, providing the criticality boost for the system to work - and keep working. Interestingly, proponents of the universal tachyon/bradyon field hypothesis suggest that the differences in the acceleration of these fields may serve to record what happens in the Universe from moment to moment in much the same way as a TV video recorder can record televised pictures and sounds but quite how that happens still remains a mystery to many.

We all believe that the future awaits us and the past is fixed as we experience the flow of time – that could be a misconception. In our everyday lives the immediate present is the only reality we know so as to avoid our consciousness 'bleeding' over into the implicate order of the Universe as it is now known that the flow of time varies, it is not linear and it is not constant. The probability modelling outlined above has not only the potential for a fixed and amendable future and theoretically also a past open to the same processes - one that is just as open to probabilities once it becomes automatically and continually released from our present. In a non-local holographic Universe, time has no meaning. However, as we currently have no means of returning to the past or going to the future that remains an exotic notion.

Once we are released from our bodies perhaps we can sample the true Universe by going back from whence we came. The person who experiences an OBE or an NDE may already be experiencing some of the insights that await all of us in some other future. The UFO abductee that undergoes an equally powerful and mystical experience may also be interacting with the collective consciousness, but on a different level. But, sadly...we may all be mistaken...over the ages the shaman, the aborigine bushman, the Sufi, the Zen master, the Eastern yogi, Egyptian priests, countless philosophers, great thinkers and some brave scientists have all hinted at this explanation of the real Universe. But perhaps it is all an elaborate chimera brought about because of the way our brains have evolved and its architecture. As a large brained animal we tend to use only a small part of our brain's capacity. Surely, there is adequate scope here for the mind to range free with the connective potentialities of billions of nerve cells. Perhaps everything can be explained in cold scientific terms, even the miracles.

The stupendous fact that the human mind exists within, and yet implicitly part of, a swirling improbable universe, chaotic and yet ordered in such a way that we can make at least some sense of it will eventually yield many answers to questions humankind has been asking itself from time immemorial. It may also paradoxically, provide unrecognisable answers for which we currently have no questions! To access these answers may take little more than the courage to challenge the mindset of fixed beliefs.

The brain's ability to holographically construct ideas, concepts, and rationalise irrational faith in unseen, but felt imaginary forces solely as a brain function, is responsible for mankind's' greatest…and his worst achievements.

Whilst we have the individual ability to wire our own brains in the way we desire, at the same time it appears in the deep recesses of our brains we are helplessly hard wired into the implicate and unalterable Universe that must remain outside our normal day to day experience if we are to have the one existence we know...life. Is this the part of creation we access in our imagination and our dreams? Perhaps it is also where inspiration and insight resides? A country already prepared for us by our universe, remaining alien to us and yet part of us as we are part of it. A country in which our dreams, hopes and ideas exist as swirling exotic electromagnetic probabilities until hardened into reality by belief, constant practise, sheer will or prayer power. If God exists, it is possible He exists not outside us, but rather because of our belief in Him.

This paradox of internalised belief is an essential part of the higher human brain/mind function allowing us to conceptualise and construct thoughts and ideas in a virtual world of our own creation even if some constructs result in irrational existentialist rationales. Unfortunately, we do not possess a 'speed governor' in our brains for want of a better term, to control conceptual excesses of thought that we may, or may not, transform into action or deeds. We should always be aware that the implacable and immutable creative processes which reside in the implicate system is all-powerful and has the ever present potential to destroy us as well as nurture us.

If our visitors are as advanced as we believe them to be, they will have overcome much or all of what we suffer and it is realistic to think they will not be prone to our intellectual and emotional weaknesses. However, even they will still be subject to the laws of the implicate universe. The difference is they will understand its workings and its rules more than we do. In what we might call spirituality, some will be hugely in advance and they may already understand and pity our puny groping attempts to find out our place in the universe. It seems we have so much to learn. Unfortunately, we may have to fear others who may be less spiritually advanced.

The only sure thing is that the visitors and their ships are corporeal and whilst much of their technologies appear to us as strange and unnatural as themselves, they are interacting with us and as they come from other realms it is our duty to acknowledge their presence and attempt to find out why they are here and what they want from us.

Chapter Ten

Dangerous Outcomes

You might be forgiven for thinking we collectively face enough problems without worrying about aliens visiting our relatively small planet. Most people are still incredulous at the idea, after all, how can anyone traverse the vast distances that separate us and other star systems? We now know that intelligent life doesn't exist anywhere in our Solar System from the probes NASA and the Russians sent to the planets, and anyway if the probes had found anything we would be told, *wouldn't we?* I mean, all the stuff you read in the papers and see on TV about UFOs is bunkum...after all, there's no such thing it's all misidentification or just pure fantasy!

Some of that may be true, mis-identification of objects, and the odd hoax attempt of course. Most people do not trust politicians or governments to tell them the truth on every occasion (or even any occasion!) Most of us might not know about the science associated with interstellar travel but we do know that if our astronauts can get to the Moon and back it is reasonable to think that ET travellers, possibly countless millennia in advance of us, could probably travel over even greater distances. There has always been a strong suspicion and a growing awareness by the public of all nations that what is seen in our skies does not always belong to us.

Humankind faces many trials in the future, in respect of over-population, food and water shortages together with the ravages of war, natural disasters and diseases. To all those challenges must be added the exponential demand for energy for oil, gas and nuclear. It may be crucial to our survival as a species...and that is not too strong a statement...that we solve these critical problems. Whilst the world population is said to be slowing down according to UN studies, (6,000,000,000 at the end of 1994) around 80,000,000 are still added to the total each year, mainly in the developing countries e.g. Africa and India. It has been estimated that by the year 2040 India's population will exceed that of China and by 2050 around one-third of the world's population will live in these two countries alone [4].

In the Western world, the so-called 'first world' not only is the fertility rate falling, but death rates are outnumbering birth rates. In 2010 the world's

population will have increased to around 7 billion (7,000,000,000) and each year around 800,000 people aged 65 years of age or over are added monthly to that total. In 2010 the 800,000 a month will become 1,000,000 a month. We can now envisage a world population that approaches 9,000,000,000 people. The implications of that for adequate supplies of land and housing, food, potable water, health, sanitation, education and the infrastructure to provide for all these new and existing people remains to be addressed. It is simply unrealistic to imagine all these new people will be able to share in the World's dwindling resources. If matters are left as they are, there will have to be a system of prioritization for access to resources, some of which are essential for life.

The worldwide spread of HIV/AIDS continues apace. Currently, the most badly affected areas appear to be Africa and the Indian sub-continent. Significantly, both these countries are predicted to achieve the greatest population explosions over the next few decades. Life expectancy is greatly reduced by HIV/AIDS infection and it is estimated that African people born in 2010 may have statistically a maximum lifespan of 44 years of age due to the infection. By 2006, worldwide over 1.7,000,000 people will have died from HIV/AIDS. By 2005 it was estimated that there would be 800,000 deaths in sub-Saharan Africa and around 500,000 deaths in the Indian sub-continent if nothing was done to stem the problem of HIV/AIDS in these regions.

However, the numbers of these deaths pale into insignificance when you learn that the return of tuberculosis due to the HIV/AIDS epidemic could claim up to 3.3million people every year by the year 2020 together with the HIV/AIDS deaths from other causes. The changing world climate due to global warming also raises the possibility of emerging new types of disease as yet unknown and which we might have little or no defence against. Our survival might depend on how fast a new disease hits mankind and if we have the time to create the defences against it. Fortunately up to now, serious contagions have required human-to-human contact to spread and normally we can manage these types of infectious diseases by limiting contact. The same will not be true if new strains of potent diseases become carried in air and water, hibernating until they find a warm blooded host to infect. The recent pandemics of avian and swine flu should be a warning and a wakeup call.

As terrifying as these numbers are, we still manage to retain what appears to be a 'self-destruct' gene - it is estimated that about 3,000,000 people will die from smoking in western countries in the year 2030. However, about 7,000,000

will die from smoking in the 'Third World' in the same period. If this wasn't bad enough news, we have to consider climate change, which really is now upon us. We have all seen some of the effects of this worldwide phenomenon on our TVs. Floods, hurricanes and unseasonable weather all around the planet is an indication that we are now starting to feel the effects. Scientists still squabble over what actually causes global warming and whether it is a cyclical phenomenon caused by variations in the Sun's output or whether volcanism is to blame. However, there is mounting evidence to show that industrial activity is a major contributor to the warming effect by the emission of the so-called 'greenhouse gases' with excess CO_2 emissions (carbon dioxide) being the main culprit. The production of CO_2 seems to be faster than it can be absorbed by natural processes and even if human activities become reduced volcanic activity will far exceed the deficit.

If you link increased industrial activity to the energy requirements of emerging economies, or economies undergoing re-construction, you quickly see that the economies of Eastern Europe and the former USSR in 2010 will require 890 kg of oil and 1760 kg of oil to produce just US$1,000 worth of GDP (Gross Domestic Product) respectively [4]. In comparison, Western Europe and North America will only require 200 kg of oil and 340 kg of oil to produce the same US$1,000 of GDP. That means the countries who cannot afford to upgrade their wealth creating industries will contribute most to future CO_2 emissions with a knock-on effect to climate change. There is no indication that any attempt is being made to solve this pressing, and extremely urgent problem. Our ufonauts seem to have no opinion on the subject either.

So-called ‘information starvation’ is also an important aspect in emerging economies and the availability of information technology will play a crucial role. In 1997 it was estimated that there were some 74,000,000 Internet users worldwide [4] out of those, 42,000,000 resided in the US, 13,000,000 in the Asia/Pacific region and 15,000,000 in Europe. In the Third world, Africa, the Indian sub-continent and some other emerging nations, they may not even have electricity except in large cities or conurbations. Literacy is also a major problem. Therefore, it appears much of the world is becoming 'information starved' and as a consequence, is being left behind in the race for knowledge and prosperity.

Most of the developed world still retains the capability many times over of wiping out all life on Earth through the use of nuclear, biological or chemical

weapons - despite what your government tells you. In 2005 countries such as Iran, and North Korea possessed nuclear capability and are progressing towards being able to manufacture nuclear warheads. By the year 2050 it is estimated that most countries of the world will have the ability to deliver NBC (nuclear, biological, chemical weapons) apart from most of sub-Saharan Africa (except South Africa), some former smaller USSR states, Mexico, some countries in South America, New Zealand and other small, colonially un-ambitious countries scattered throughout the world. Most countries may already have radiological weapon capability (See Appendix 1).

To counter such emerging threats and feed their panophobia, the developed world powers continue to use up front diplomacy whilst at the same time surreptitiously carrying out research for new and terrible weapons that could target specific racial types or genders to incapacitate, neuter or kill. The burgeoning development in understanding the building blocks of all biological life opens up the possibility of defeating enemies through the use of such an arsenal of these aggressive anti-life systems. Such systems could include the absolute destruction of specific food crops, i.e. rice and grain, doping of potable water with disease or compounds to cause specific genetic defects, or even the destruction of say, all the females of a particular race by targeting the XX chromosome. In time, it may even be possible to target specific genetic types based on such a simple thing as eye colour or blood group. For instance, in the UK is known that around 47% of the population is of blood group 'O'. All that is needed is for someone to develop a weapon to target that specific blood group and almost half the population is at risk - this is not science fiction, it will be available to those nations who have the scientific know-how and the willingness to undertake the research over the next few short decades.

If we do not all die from disease, extreme weather, drought, and starvation or blow ourselves to kingdom come with nuclear weapons, or something as yet unthought-of of, we still face extinction from an ECA (Earth Crossing Asteroid) in the not too distant future. Whilst many ECAs have been mapped already, it's true to say the one that kills you will probably not be seen until it is too late. As mentioned in Chapter One, the Earth has had many near misses of what could have been quite serious impacts. NASA has taken up the challenge of intercepting two of these potentially dangerous asteroids in an effort to deflect their incoming trajectories away from the Earth. Who else would have the know-how and the resources to do it?

Asteroid 1986JK (an asteroid around 1 kilometre in diameter) and asteroid Toutatis (3 kilometres in diameter) have been targeted for that purpose. These two asteroids do not pose any immediate threat to the Earth, as their current orbits are not Earth crossing, but are what is known as NEO (Near Earth Orbit) objects. It seems that NASA will remain busy on asteroid watch, as another dangerous asteroid catalogued as 1997XF11 is thought to have an orbit that will take it quite close to Earth. As this particular asteroid is thought to be around 25% of the mass of the asteroid that many scientists think extinguished the dinosaurs, it's hoped that NASA will be able to effectively intervene in its trajectory if and when the time comes!

Even if exploding supernovae in our own backyard, wandering asteroids, disease, wars, and food/water shortages don't get us, our polluting nature may do the job. As the Earth's population rises, so does the pollution. If populations reach a tipping point, pollution may go exponential - if nothing is done to stem the tide we shall all suffer. Already we see signs that life in the great oceans, the Pacific and the Atlantic is under stress and in both land and sea we are now seeing wholesale extinctions and shortages of species. Any new species cannot keep up with this destruction. Over-industrialisation, inefficient industrial processes and intensive farming methods in the developed nations of Earth are dumping tonnes of waste material and large amounts of nitrogen in the form of leached out fertilizers into rivers, lakes and seas.

We have treated the oceans like an open sewer, hoping that its self-healing properties will take care of our waste. Estimates concerning the toxic levels of nitrogen in the oceans indicate that it might take as long as 30 years for the excess nitrogen which causes suffocating algae blooms, to clear naturally so that sea life can take up where it left off. That's if we do something today - not tomorrow! To my knowledge there is no specific visitor warning about this situation.

Even though there have been advances in the way plastics are now chemically degraded so that they don't hang around in our environment forever, plastics and plastic products still manage to kill a lot of irreplaceable sea life. Baleen whales, finbacks, blues, minkes, humpbacks all get caught in redundant, discarded fishing nets whilst birds and other forms of marine life occasionally gets soaked by what plastic starts off as - crude oil.

If the seas die - we die, and yet there is no warning or help from the visitors. They cannot have avoided seeing the level of pollution being created in our world. The plastic problem is so serious that it has been estimated it will take around 500 years to totally degrade the stuff whether it's floating around on the sea, or whether it resides in landfill. In many ways, the insidious plastic problem is greater even than the very serious nuclear waste conundrum because it does not have a dramatic public profile. Whilst most products can be re-cycled, this can create more problems than it seeks to solve. The mere process of re-cycling may cause pollution problems as part of the process and unless primary products can be re-cycled into other forms there is often a commercial knock-on effect resulting from over-supply issues.

There are many other issues which I have not covered such as, large scale de-forestation, massive soil erosion caused by land clearances, slash and burn campaigns by greedy farming methods, aggressive water abstraction, deliberate dumping of toxic substances... the list of humankind's dangerous practises could be endless. None of these extremely serious issues have been mentioned by the visitors or the increasing numbers of witnesses who claim contact with them apart from one group who have been labelled - the 'Nordics' because of their tall long blond hair and blue eyes.

Obviously, the visitors are here for something that involves a protracted stay and have been here long enough to have easily surveyed the entire planet several times over. People who claim interaction with the alien types called the Nordics are constantly reminded of impending worldwide catastrophic future events if we don't change our ways. Classic events such as, extreme volcanic eruptions, earthquakes, floods and droughts, are all prophesied by the Nordics because of our dismal failures...in short, much of what humankind has suffered throughout our tenancy on Earth. In any event, they say they will be there when the time comes to rescue their believers.

Nordic space beings have been around for a few decades now and there are, of course, many similarities with established religions with the 'End of Days' scenario characterized in Islamic, Jewish, Hindu, Zoroastrian faiths as well as in many other lesser known faiths. For example, Christians believe that God will rescue his flock from the catastrophe of The Last Days, designed to purge the world of evil and bring the devil to account. These eschatological stories run deep in the human psyche. The Nordic myth presented itself after the well-publicised George Adamski affair in the early 1950s when he claimed contact

with angelic visitors from Venus. Unfortunately, the myth got dented when the Russian Venera 9 probe sent back pictures of the Venusian surface in 1975 which showed Venus was a planet more adapted to our impression of Hell than Heaven!

Now, similar angelic beings come from further afield, with some said to originate from the Pleiades system despite the fact that astronomers know that the system is very young i.e., about 50 million years old, and that it has a number of Blue Giant stars which are not conducive to intelligent life having developed or being maintained there. Add that to the fact that it is around 415 light years away from us and it becomes difficult to see how any advanced civilisation could have blossomed. Another contender for the Nordic space people's home includes the Orion system. It also has a Blue Giant star called Rigel even further away at around 815 light years distant. Such Blue Giants are rare, and it may be significant that believers have selected these star systems because they are bright points of light in our night skies and can be seen with the naked eye.

However, the Nordic myth has changed appreciably since Adamski. Far from being the idolised benevolent, loving long blonde haired, blue eyed androgynous beings of average height they once were, they have now been transformed into 7.5 feet tall (2.3 metres) tall caricatures that now behave amorally and are definitely not asexual. This hedonistic Nordic race is not always viewed as an alien observer and some of the human contactees (usually female, but not always) consider them to be half human, half alien. We have no idea how totally alien DNA sequences can be successfully and viably spliced into human DNA to make a hybridised being but contactees now call them 'halflings'.

Of course, these latest Nordic or 'halfling' types may be a totally different species altogether to the original Adamski Nordic. There is another possibility that they are somehow related to the so- called 'Greys'. However, according to reports, Grey types are not seen where the Nordics operate. Whether that means they are mutually exclusive has not been determined or whether it means there is no requirement for both types to operate in any one area due to some kind of treaty between them remains unknown. The Nordic experience also tends to be a long subject/alien relationship, sometimes for the life of the contactee, unlike people who interact with the Grey types, there seems to be no rush or particular pressure to achieve anything in their relationship with the people they select.

The Nordics do not appear to trade technology as the Greys are supposed to have done. Their trade seems to more of a spiritual and life-style nature. It might not be unkind to say that the nearest that humankind may have come to the message of the Nordics was at the height of the hippy culture in the 1960s where peace and love was worshipped in a soporific haze of marijuana smoke and other mind altering drugs. I am not suggesting that this is also true of the Nordic experience to those who may value it, but I believe this crude comparison is a valid one for those of us who are not well versed in the current Nordic scene.

There are some people who feel that their Nordic relationship is not quite what it seems being rather one-sided in the favour of the Nordic. A person selected for attention will get a Nordic mentor who will usually stay with them for as long as necessary. The object seems to be one of indoctrination, changing of world-view, sexual liaison...for some female contactees/abductees that may provide everything they have ever wanted...a father, a brother they can confide in when they need to, and a dutiful lover all in one person with no risk of disapproval from the rest of a moralistic human society regarding their extremely strange secret relationship.

Under such bizarre circumstances it would be inevitable that some psychological damage would ensue. We just do not have relationships with alien beings as part of normal human life. Women, in particular occasionally feel used, and they probably *are* being used, unable to break free because they feel a deep addictive desire to continue what becomes a long-term relationship. The almost perfect 'attraction' of these sculpturally perfect individuals is designed to entrance their victims into a system of dependency and willing co-operation. Their 'design' and allure is meant to capture the human heart and may emanate from more sinister intentions from other quarters which are already now well known - so much so, ridicule is often foisted upon the concept of their existence and sometimes those whom have been unfortunate to have been their victims - namely the Greys.

I doubt whether or not humankind has been helped to any great degree by our visitor’s vastly superior technology. Perhaps some trades have been made, but these are likely to be trades that present no risk to the visitors and these trades may only give us a glimpse and a taste of their superior powers. They should not change the course of what will become our natural history of human

exploration and development – do you remember the Star Trek Prime Directive? No doubt a common sense approach...

We have come a long way in a very short space of time and have covered a number of diverse scientific subjects. We have had a brief glimpse of what we know from looking at the stars through optical and radio telescopes to probe our Universe. We have looked briefly at the cutting edge of medical research and the miracles it promises. We have looked at what we think we know about our environment and the deep question of what matter itself is composed of, where everything came from and where it is going.

We have looked at several possible futures, as well as the down side if things go wrong with mankind's plans, or we suffer a crushing cosmological accident which we can do nothing about - an asteroid hit, a massive supernova explosion or some other unpredictable event. We have looked at the dangers of allowing the majority of the World's population to technologically 'starve' whilst the remainders reap all the rewards.

We have briefly looked at the proposition that our Universe may be even stranger that the particle theorists might think, we looked for man's soul but were doomed to failure if we hoped to find something spiritual other than a very fragile biochemical mass of nerve connections. In all of these endeavours, we have not found any concrete evidence of alien intervention in our affairs.

That might be considered strange by some, as all the sciences have only really blossomed over the last hundred years or so. It is sobering to think that it is only around 313 years since Isaac Newton established the laws of motion and universal gravitation after inventing the mathematical methodology called calculus to do the work. In 1915 Albert Einstein would developed the theory of General Relativity, and would later be horrified when he discovered that his research had helped physicists to explode the first atom bomb in 1945. In 1964 theoretical physicist Murray Gell-Mann and his co-workers would invent the concept of the quark that has now become an essential key to unlocking many of Nature's deepest secrets.

Scientists now know the atmospheric composition of the planet Pluto even though it is some 3,666,000,000 miles from the sun (5,900,000,000 kilometres) and we are sending robot space probes to take a closer look, and yet Earth still loses many millions of people each year to starvation, over-population disease and war, not to mention adverse climatic conditions. If aliens are helping us in

this advanced technology it seems they have no understanding of our real needs - that is, if we asked for it in the first place! This is strange assistance indeed.

If there has been intervention, it would have occurred at a very local level and would have been very specific. However, one does have to admit that some of the things we can do - or imagine we can do are quite remarkable. The promise and the potential horrors of human genetics will have the effect of accelerating our knowledge even faster than it is at present. The real payoffs will come when the comparatively new sciences converge. That process is already happening in electronics and medicine where it seems our medical implants are improving and extending our lives. But the visitors remain in our skies, seas and land with most established governments unwilling or unable to do anything about it...or so they tell us... They even follow our astronauts on their missions. A non-intervention policy is no doubt paramount to the success of whatever their mission is.

It seems that from all the available evidence, reliable evidence from radar tapes, astronauts, pilots etc.... anecdotal or unsubstantiated evidence from witnesses some of whom may have evidence of body tampering, we have been under subtle and not so subtle surveillance and attack for a number of years. Judging by the increasing number of witnesses coming forward in respect of unwanted personal interactions with the visitors, it seems the situation is escalating. The visitors seem totally unconcerned whether or not they are seen as they go about their business.

A non-interventionist approach by governments might seem the best and possibly, the only way out of their quandary short of coming straight out with the fact that aliens have been around for a long time and it seems that this impotent stance may have already persisted for several decades. When we get more used to seeing their craft in our skies, on land and the sea, perhaps then the time will be right and we shall be told most of the full story. It seems that until that time arrives, we shall have to wait and endure - patiently.

All the evidence available seems to point to a programme of alien non-intervention, not assistance or help for short-lived mankind. Somewhat depressingly, there may be good reason to believe that the visitors may consider us collectively as a failed project. An attempt by life to establish itself on Earth only to be aborted earlier than planned by Nature drowned out by rising waters and starved to death by lack of food or destroyed by some equally catastrophic

end. Our visitors may have witnessed similar annihilation scenarios countless times to planet-bound species on other worlds they have visited as they continue to life-map the Universe. In that event they would be scientists and historians on a grand scale and we would become perhaps just a small part of that evolutionary history of life long after all traces of mankind has disappeared. If that is the case, the incredible irony is that the only history or proof that we existed at all would be what the visitors had saved of us, and not what we would probably want on our collective epitaph. Perhaps it is fitting that humankind should be judged by outsiders to our small fragile planet rather than by ourselves.

As increasing numbers of sightings, interactions and reports of strange alien creatures being seen in various parts of the world continue, there is a feeling of urgency in many people - an urgency to understand exactly what is going on. Most governments and officials continue to lie to us, apparently obsessed with secrecy and the need to keep what they perceive as control of the situation. There is growing evidence that the general alien situation may be out of control altogether. It is an inevitable fact of life that even the most carefully protected secrets eventually leak out of every endeavour we undertake, no matter how secret something is. What starts as a trickle may end as a flood as all it takes is for a whistle blower to place these matters in the public domain.

Alien non-intervention in our affairs strongly suggests that they (whoever or whatever they are) are not particularly impressed with our technological capabilities at this time and are content to 'farm' the Earth and its resources as they wish. On current trends, it appears that if aliens want our planet for themselves they can just take it - that may have already occurred without our knowledge by compromising the most powerful nation on Earth. They appear to have no interest or need in co-existing with us on our Earth...at any level.

We are all an integral part of creation, aliens as well, whether we feel that we can only relate to our immediate environs and the Earth, or whether we take the larger view to encompasses the Universe - we are all part of that and it is inconceivable that human consciousness should be destined for imprisonment. We all have a brain that can construct imaginative frameworks that are frankly, incredible and truly amazing. Our brain is designed to liberate us, to free us, and in that respect we shall have to confront the visitors for better or worse before we can take the next great steps in fully understanding the Universe and beyond.

There is a right to know if our respective governments are not telling us the truth about the visitor phenomenon - it is crucial to humankind's continued development and future. Infinity beckons us and we cannot and should not ignore our destiny amongst the stars. The visitors are already a part of that great design and we can be too, but only if we know the truth about them. This knowledge is our first tentative step towards a new and greater maturity for mankind and a mind- expanding reality that encompasses the Universe. To go beyond that which we call infinity. However, there are other aspects to consider and we should be cautious before making any conclusions:

It may be more than a coincidence (or millennium fever at the turn of this century) there is currently such renewed energy to establish a permanent international space station and to explore the near planets, culminating in a manned mission to Mars within the next few years. The technology required for NASA to soft land the 'NEAR-Shoemaker' probe on asteroid 433 Eros on the 12th February in 2001 after a 2 billion mile (3.2 billion kilometres) journey following a year in orbit around Eros, indicates the power and precision of our delicate but fragile systems. Surely, that feat alone must prove humankind's credentials in space flight technology to our visitors?

In our necessarily brief journey into the histories of our own scientific progress, which has laid the foundations for our current developed societies, we have seen no evidence for alien intervention in human technological affairs. We should not be hasty in dismissing our own efforts in an attempt to explain what we see in the skies. The sight of huge, very slow moving triangular objects or crafts may not be alien to our planet at all, but artefacts of human ingenuity.

I have no doubt whatsoever that somewhere, in some laboratory sponsored by unlimited government funding, scientists have discovered how to create a powerful magneto hydrodynamic generator utilising existing nuclear engineering technology and powerful shaped magnetic confinement systems, thus obviating the hazards of lethal radiation of conventional nuclear engines. Perhaps it is this type of engine that powers many of the strange craft in our skies that seem to defeat aerodynamic principles?

It is well known that the search for 2nd or even 3rd generation stealth systems are being investigated and those future systems will focus not only on improved radar invisibility but also sight invisibility. The search for this ultimate goal has been around for almost 60 years and even without the

technologies we have today it was well known that placing powerful lights on the leading edge of a WW2 fighter plane's wings would make the aircraft's outline impossible to see by the enemy as it dived in for an attack.

It is also known that both the UK and the US are experimenting with cloaking systems for infantry troops which can result in infra red and sight invisibility on a personal level. It is reasonable therefore to conceive that even more sophisticated methods will be employed to enhance existing stealth technologies that use radar-absorbing materials, continuous curvature and reduced IR (infra red heat emissions) signatures to ensure superiority.

There is a large body of evidence going back over twenty years which suggests that 'psychotronics' *(psychotronics is a term which is used to generally describe beamed systems or energy emitting devices which utilise microwaves, low frequency radio frequency waves or other similar technologies. The term 'psychotronics' has also been used to describe the less well known aspects of telepathy, hypnosis and telekinesis)* has been used to develop weapons which can be used against human beings to either subdue or even kill. It has also been claimed that some of these applications using beamed systems can create earthquakes, control our weather and modify human behaviour. Presumably, if these systems exist they would have already been employed to make violent people into submissive and passive people or vice versa.

It therefore becomes easy to visualise that our technologies will have spawned many more diabolical means of control or destruction with the almost exponential growth in scientific advances and global communication systems over the last twenty years or so. Whether we have developed psychotronic weapons or hybrid pulsed laser weapons in respect of near Earth defence systems very probably has no alien input. It is also possible the reverse may be true - these systems may have been developed to protect *us from them*!

Whilst there will be some readers who may consider the kind of technology I have mentioned as alien, as far as their understanding goes, we have to remember that any alien technology will probably look weirder than anything we can possibly imagine. Whilst there are many apocryphal stories of borrowed or stolen alien technology surrounding emerging new science applications, there is no hard evidence to suggest the current exotic claims weaves of intrigue, cover-up and plotting at the highest levels in American politics and aerospace

companies has any basis in reality apart from normal commercial protection policies. We shall explore this subject a little more in the next chapter.

In environments where ultra methods are used to maintain secrecy much value is attached to rumour. Such rumours may, of course, have a large commercial value to some people. Where governments implicitly take advantage of rumour factories for their own ends, it has been shown that such action usually backfires. Another aspect to consider should be the natural desire of commercial enterprises to maintain their competitive edge in a very crowded marketplace.

It is unlikely that any visitor coming to us from deep space will have anything to learn from our scientific or cultural heritage. Rather, they will be interested in the Earth's diverse life forms and us - our physical and intellectual capabilities. They will be interested in how we subconsciously 'wire' our own brains the way we as individuals want them through our experiences and beliefs notwithstanding we are all essentially the same physically. They may not share this ability to be individuals as we are. If that is the case humankind will be fascinating to the visitors - and they do appear to be fascinated by us.

Whether our respective governments are impotent or are unwilling to do anything about the problem is not known for sure and whilst there are many cases where government officials or representatives have been embarrassed by leaked admissions of cover-up, there is no definitive proof of either impotency or unwillingness to tell the public the truth about the visitors despite the evidence which they hold and that which is in the public domain. As the objects in or skies, lands and seas become less reported and are taken almost as a matter of course in some parts of the world, and as the victim count gets ever higher, we really do need to urgently and unequivocally understand what is going on.

Damaging international disputes about the effects and causes of climate change and how powerful economies can maintain growth whilst still accommodating the 'small guy' will continue to rage as will the increasing paranoia of the powerful nation states to hold onto to what they already have in a fiercely competitive world where everyone wants their cut.

Sophisticated and exotic defensive systems may continue to be developed for use against small nations who are largely disenfranchised potential threats, and whom only have a nuisance/political value in the grand scheme of things. Let's be honest, why would a technologically starved and otherwise, hard up

nation want to develop advanced, reliable nuclear missiles when an old freight ship, submarine or even cruise liner carrying a thermo-nuclear bomb would do the same job at a fraction of the cost! Ships can also carry bigger bombs than missiles and the fall-out from a ground zero detonation in water would produce large numbers of casualties and lasting damage - especially if the detonation (or detonations - In a multiple attack scenario) is triggered in any one of the many large commercial sea ports and cities that are freely accessible to all.

To the aggressor who contemplates suicide it may be enough to wipe out millions of civilians and permanently destroy their commercial habitat rather than attempt the futility of knocking-out missile silos or command centres prior to an assault. The audacious and terrible September 2001 attacks on America causing thousands of casualties carried out by just a handful of terrorists serve to remind us that you do not have to possess arsenals of technologically advanced weapons to create havoc, fear and mass destruction.

The inevitable retaliatory aspects of such a foolish adventure would be predictably as swift as the initial hostile act so it seems there is nothing at all to gain from aggression or counter aggression in the long run. Whether any of the visitors would intervene to neutralise weapon systems, as they have allegedly done in the past, is open to conjecture - perhaps it would be better not to rely on benevolent intervention. However, there is another view.

At this point, you might agree that the visitors have little demonstrable interest in our welfare outside of their selfish plans for us, and our small blue planet. If exotic weapon systems are being developed in haste to counter the visitor threat, rather than any internal threat by the so-called 'rogue nations', we should be told about it before matters are upon us. On the other hand, if exotic systems are being developed to counter other human beings, we should denounce it as madness in the face of all the other challenges mankind is confronting. Collectively, we just do not need any more potentially terminal hazards which can be avoided. This racheting up of lethality increases the danger of the accidental deployment of weapons of mass destruction.

With an increasing number of anomalous objects seen in our skies, on our lands and in our seas, such a danger becomes omnipresent and ever more threatening to our settled lives and our general security to live our lives happily and without constant fear, whether real or imaginary. Inevitably, the future cost of a secure existence will be as a result of massively increased intelligence

gathering and even greater intrusions into our personal freedoms and liberties. Superficially, it may seem clear to many who cannot control their paranoia, such a cost is worth paying.

However, we should remember the lessons from history, which teaches us oppressive societies do not endure. Somehow, we have to learn to live with fear and become stronger because of it but we should not become inured and complacent to the technologies we have developed to such an extent that it can destroy us. Be of no doubt, to do so will risk accidental extinction and there will be no epitaph for mankind.

Even though science and the continual lust for knowledge, power and recognition by those involved may have brought us to our current point in human history, we may take some small comfort in knowing that it is not always the publicly perceived toiling efforts of teams of scientists who provide such generous doses of both utopia and oblivion, but rather the peculiar traits of human nature itself which determines our progress or our retreats.

In his challenging book, 'Forbidden Science' {32] Richard Milton reminds us that chance plays a vital role in the progress of our civilizations:

'...Those inventions and discoveries that have found a place in our lives are not carefully selected by stringent tests in the laboratory and the economic rigours of the market as the best available, or even as meeting our specific needs. On the contrary, the science and technology we have is more or less the product of chance. It would have been perfectly possible, for instance, to have constructed a high definition electronic scanning television system while Queen Victoria was still on the throne in the late 1890s. Even the scientist to perform the task was available in the form of the young Ernest Rutherford who was attracted to Marconi's experiments with wireless. But Rutherford was advised by his mentor Lord Kelvin not to have anything to do with radio since it had no practical application, but to study radioactivity as a more promising field...'

His percipient, poignant observation suggests that we kind of get where we are by accident or serendipity - which is true in many cases. Milton's thesis is striking inasmuch it suggests interpersonal failures, dominant personalities, poor or possibly selfish career steering advice may have played a vital role in the way western civilization may have scientifically stumbled to where it currently resides. Who can tell where we would be now if Rutherford had developed high definition television systems?

Whilst interpersonal interplays no doubt still play a crucial and largely unseen part in scientific research directions, we should not ignore the huge impetus stemming from the visitor phenomenon to the scientific community a scientific community mostly at odds with itself, and unable to recognise and reconcile its egocentric position and the stupendous challenge to long cherished core belief systems. It becomes clear that our challenges do not lie in our scientific abilities or sheer brain power, but rather resides in our crude under-developed so called 'reptilian' lower brain which is responsible for the worst of human nature causing repeated failures and reversals despite best intentions.

A striking example of lower brain behaviour is manifested in the way that technologically advanced nations tend to actively withhold any technology from the many deprived nations that would provide equality and therefore a chance for real structural change. Global interaction with the visitors on any level paradoxically may provide the mechanism whereby we can be liberated from the tyranny of our reptile brain - providing our minds are capable of surviving open ET contact and the reptile becomes leashed...permanently. From the growing witness accounts across the World, we begin to see how necessary it is that the whole UFO question is for once and all intelligently and openly publicly debated with our governments admitting the reality of these visitations to our planet. Ultimately, there will be no other option available as increasing numbers of visitor interactees come forward to confound the cynical and often paranoid official keepers of secrets. But, firstly, we have to return to the perplexing issue of defence technologies and possible alien involvement.

Chapter Eleven

Power Games

On Space shuttle mission STS-48, the crew of 'Discovery' took some remarkable video pictures of what appeared to be around a dozen or so objects moving in its vicinity. The time on-board Discovery was 20.30hrs and filming of these strange objects would continue for the next 15 minutes as it continued its orbit over the west coast of Australia and almost 1,500 miles geographically north west of the super secret Pine Gap joint Defense Space Research Facility of the US and Australia.

The video clearly shows a solid object appearing in view of Discovery and a sudden 'flash' of light streaking upwards from the ground, apparently aimed at the object. The object seems to anticipate being hit by the beam, and takes immediate evasive action by veering off at a tangent at an incredible speed, estimated to have been several thousands of miles per hour. Analysis of this manoeuvre by Dr Jack Kasher, a US physics professor in Nebraska, concluded that no human pilot could have withstood the tremendous 'g' forces that would have resulted from this violent turn.

That incident was one of many taken by the crew of 'Discovery' and if it was not for the efforts of Donald Ratsch in Maryland Cable TV Channel 6, the video would have probably not seen the light of day. NASA denied that what had been filmed was nothing out of the ordinary, and sought to explain the strange lights and objects as the shuttle's self-generated debris. The official explanation ranged from ice crystals coming from the craft's engines glinting in sunlight, to urine dumps! It seemed that NASA was clutching at straws, and no doubt the admission of shuttle co-pilot Ken Reightler of STS-48 that Discovery did have a leaky dump nozzle may have influenced NASA's conclusions as the soft option despite determined Congressional enquiries.

The reluctance of NASA to 'come clean' is understandable as they are limited under their Mission Statement as to what they say particularly if it would affect the US militarily. However, there seems to be ample evidence that a beamed 'something' came up from the ground to target one of the many objects that were shadowing the STS-48 mission and significantly, it seems that the energy beam might have come from Australia.

Most readers will be aware of the search for a ballistic missile killing method utilising beamed weapon systems because of the publicity surrounding the much vaunted on/off US 'Star Wars' programme. It is public knowledge that the US has been investigating systems that can neutralise ballistic missiles whilst they are at their most vulnerable in space just before re-entry into the atmosphere. Targeting is made by infrared acquisition and individual target co-ordinates are worked-out by powerful computers. This kind of defensive system works best in space because there is no intervening atmospheric pollution to scatter or dilute the effects of beamed weapon counter-measures. However, it seems possible that US scientists have overcome that problem and now have in their possession a beamed weapon array of such intensity so as to be effective from ground level to orbital space.

Whilst it is difficult to see how any high-energy beaming system could be used as anything else but for offence or defence, the Pentagon reputedly is sponsoring a project for studying the ionosphere by bombarding it with high energy, high frequency radio waves in the megawatt range. This study is called H.A.A.R.P (High Altitude Atmospheric Research Project) and at least one UFO investigator, Dr Oscar Rafael Padilla Lara considers that the US has established a base on the small island of Vieques which lays off the east coast of Puerto Rico, and which faces the US naval base of Roosevelt Roads, specifically to 'shoot down unidentified objects'. His claims are understandable considering the many weird happenings on and around the 'isle of enchantment' – Puerto Rico. However, H.A.A.R.P may be a cover story for the main event – the US Air Force project code named SHIVA STAR.

In the hazy uncertain world of UFO lore there are some people who claim that the joint United States and Australian defence collaboration does not stop with Pine Gap. It is claimed that the equally super secret base at Nurrungar (part of the remote Woomera missile testing range) forms an intimate part of the US SIGINT. *(Author: Signals Intelligence i.e., effectively all electronic voice and data signals that are transmitted across all communications frequencies – it is reputed this is now extended to tapping fibre optic networks as well as the more traditional intercept methods of wire tapping).*

A major consideration is that of secure communications between the various SIGINT intelligence communities. In that regard, it is thought that Pine Gap may use the little understood and once theoretical, Tesla communications

systems, in which ULF (Ultra Low Frequencies) are used to communicate with other top-secret units across the world. Such systems may be unhindered by any fears of interception or decoding of data. There is so much mystique about Pine Gap and in particular the claim by some researchers that the visitors were in control of the installation for their own ends, I thought I would ask the British MOD what part HM Government plays on behalf of the British people in this joint US/Australian collaborative defence effort seeing that Australia is part of the British Commonwealth. *(Author: it is unthinkable that the UK would not have links via our own GCHQ and the mysterious US facility at Menwith Hill run by the American NSA with Pine Gap).*

I received a reply from the MOD dated 9th August 2001 quote:

'*PINE GAP – DEFENCE SPACE RESEARCH FACILITY, AUSTRALIA*

"*Thank you for your letter dated 9 April 2001 concerning the Pine Gap facility in Australia and intelligence relationships. First of all may I apologise for the time taken to reply, but I understand that your original letter never reached this office.*

It may be helpful if I explain that it is our long-standing practise not to respond to speculation on alleged intelligence systems or activities. Information on the operations of the intelligence or security agencies is withheld under exemption 1 of the Code of Practise on access to Government information on the grounds of national security.

Regarding your questions concerning the Pine Gap facility, this is clearly a matter for the Australian government. However, you may wish to note that in 1988 the Australian Prime Minister, R J Hawke, made a public statement about this facility:

"Pine Gap is a satellite ground station, whose function is to collect intelligence data which supports the national security of both Australia and the US. Intelligence collected at Pine Gap contributes importantly to the verification of arms control and disarmament agreements".

You also enquire about the relationship between this facility and various US authorities. This is a matter for the US government.

I hope this explains the position.

Yours etc… "End quote.

Their reply was unsatisfactory on all counts as it did not address the issues I had raised regarding US/Australian/UK collaboration on defence SIGINT issues, particularly as the UK already reciprocates on intelligence matters liberally with the US via GCHQ and, we allow the American NSA to run the largest SIGINT spy network in the world on British soil at Menwith Hill in Yorkshire (I will return to Menwith Hill later). Even if, as some people claim, the visitors are not in control of some SIGINT key global sites, it is clear that Western Europe may have little to celebrate if they seek US protection from threats emanating from space.

As far as Pine Gap is concerned its importance cannot be overstated. Almost hidden in the centre of Australia near Alice Springs, and some 1,250 miles from Sydney it was established by the CIA in 1966. The stated purpose of the facility is thought to be to provide a downlink for SIGINT data streamed from geosynchronous satellites made by TRW Space Systems, codenamed, Rhyolite, Argus and Magnum.

These 'look-down' satellites were designed to detect ballistic missile telemetry from launch and to spy on, what the US considers as 'unfriendly' powers. However, the latest satellite technology is thought to include voice and data capture that can be intercepted from space. All this information is shared with the US NSA and NRO (National Security Agency and National Reconnaissance Office respectively). The NRO operates almost exclusively as a SIGINT organisation and interestingly has links with the USAF (United States Air Force) but reports to the CIA. The USAF fronts up USAF 'Space Command'.

A problem that faced the designers of such a complicated defence system is that whilst the launch of a missile could be identified quickly, once the missile had entered its all burnt mode in space, the vehicle became 'cold' and no infrared signature could be obtained. As a consequence, its ballistic trajectory could not be computed which, is crucial if its target designation is to be known. To counter this problem new counter measures have been taken. These counter measures are named 'SBIRS High' and 'SBRS Low' respectively and are two infrared acquisition solutions that are said to be capable of plotting a missile from launch, to atmospheric re-entry and therefore effective counter measures can be made to neutralise any ballistic missile threat before a strike takes place.

SBIRS (Space Based Infra Red System) High will remain space based but SBIRS Low (code-named 'Castlemaine') is already operational at Menwith Hill in Yorkshire. Castlemaine will give the Pentagon the ability to detect re-entry warheads and decoys (in respect of multiple warheads or decoy assets) as SBIRS is designed to seek re-entry infrared targets against the background of space, rather than 'look down' satellites that have to cope with a warm Earth. This very complex system has only recently culminated in a successful test 'kill' of an incoming missile by an interceptor missile. However, experiments are being conducted that do not use missiles to kill other missiles but use much more sophisticated and esoteric systems to achieve a more predictable result. Such a system is code named SHIVA STAR' in all its various guises.

The author Nick Cook informs us [33] that the USAF sponsored SHIVA STAR project was initially funded for US$3.6 million for 5 years. It took the USAF just 5 years from the project's inception in 1990 to test the system which is based at Kirtland AFB New Mexico. SHIVA STAR was designed to shoot a doughnut sized ring of high energy plasma (ionised gas) at its target at around $1/30^{th}$ of the speed of light which, equates to around 10,000 kilometres a second! This impressive weapon could generate very large amounts of electrical energy in the order of 10 trillion watts, said to be at least 3 times the amount of wattage carried by the US National Grid in a year, and has the capability of shooting down any incoming offensive warhead by simulating the huge x-ray burst effects of a conventional nuclear device thereby overloading and burning out the incoming missile's electronic arrays.

This information is not secret and anyone with access to the Internet can see The fact sheet put out by the Office of Public affairs of the USAF's High Power Systems Branch of the Air Force Research Laboratory to satisfy public interest in the project. Of course, you will not be surprised certain development details remain secret along with the strategic and planning requirements. You might ask at this stage what has all this got to do with UFOs. Well, quite a lot. Particularly as it seems a SHIVA STAR type weapon was fired from Australia at a UFO on Space Shuttle Discovery mission STS-48! It is not unreasonable to suspect that the directed energy beam was fired either from the top-secret Pine Gap or the equally secret Nurrungar installation (see suggested organagram of Pine Gap). The real question is why, and in a real sense, how? And was it a test?

Earlier, I mentioned that according to Nick Cook it took the USAF High Power Systems Branch just five years from 1990 to test the SHIVA STAR system, i.e., until 1995. But, space shuttle mission STS-48 took place in September 1991, four years prior to the alleged first test of the system. Clearly, there is an inconsistency here. How could the weapon system be deployed four years before it was officially tested? One possible explanation is that the system had already been developed to testing stage in 1991 and was installed in Australia long before the official admission of testing was carried out on American soil in 1995. If that was the case, SHIVA STAR was fully operational at the beginning of the 1990s and *was already being used in an offensive role against UFOs in near Earth space!*

If this true, our respective governments *must* tell us the truth, for that means the UFO problem has been ratcheted up several notches and perhaps now has reached a dangerous level of distrust and suspicion of the visitors for reasons that are not immediately apparent. The unsuspecting public then becomes not only uninformed victims of the visitors, but also victims of their own governments!

Epilogue:

Readers may be interested in the official response of the UK Ministry of Defence concerning the subject of government files on UFOs before the UK FOIA came into force. Those readers residing outside the UK who may already enjoy the benefits of having their own Freedom of Information Act (FOIA) to explore Government and official business may find the following amusing.

I wrote to our Ministry of Defence (MOD), the responsible authority as far as the public is concerned regarding UFOs, in an effort to get them to outline what the procedures would be to obtain government UFO files once we get our own FOIA. However, even now that we have our FOIA and the MOD have released ongoing numbers of UFO reports voluntarily to the Public Records Office at Kew, it seems that we are no further forward in getting official recognition that there is a real UFO problem almost a decade later. As an aside, it might be significant as an indicator of how instructed by government they are and how prepared this important government agency is for the inception of the new Act, that my request was made on the 1st November 2000 and their reply came on 9th January 2001!

Their reply is as follows:

"Further to my letter of 28 December 2000, (author: a holding letter) I am now in a position to provide a substantive reply to your letter of 1 November 2000, concerning the release of Government 'UFO' files under the Freedom of Information Act.

As is the case with other government files, Ministry of Defence files are subject to the provisions of the Public Records Act of 1958 and 1967. This Act of Parliament states that official files generally remain closed from public viewing for 30 years after the last action has been taken. It was generally the case that before 1967 all 'UFO' files were destroyed after five years, as there was insufficient public interest in the subject to merit their permanent retention. However, since 1967, following an increase in public interest in this subject "UFO" report files are generally preserved and released to the Public Record Office at the 30-year point. There are currently no plans for early release of these files.

With regard to the release of information from the closed files, the Ministry of Defence already operates in accordance with the existing Code of Practise on Access to Government Information (the Code), which encourages the provision of information unless its disclosure would, for example, cause harm to defence, invade an individual's privacy, or if it would take an unreasonable diversion of resources to respond to a request. Information requested is supplied wherever possible providing it does not fall under one of the exemptions in the Code.

The Freedom of Information legislation has now received Royal Assent and is known as the Freedom of Information Act 2000. It is expected to come into force across the public sector between 2002 and 2005. Until then, all requests for information held by the public sector will continue to be handled under the current Code.'

End quote.

The rolling programme of releasing files to the Public Records Office on a regular basis continues. However, can we be sure that *all* the files are being released in this way and it's not just the mundane seeing the light of day?

Chapter Twelve

Mars Unwrapped

Mars Global Surveyor Orbiter & Malin Space Science Systems archived Library pictures spanning years 1997 to 2007. ©NASA/JPL/Malin Space Science Systems.

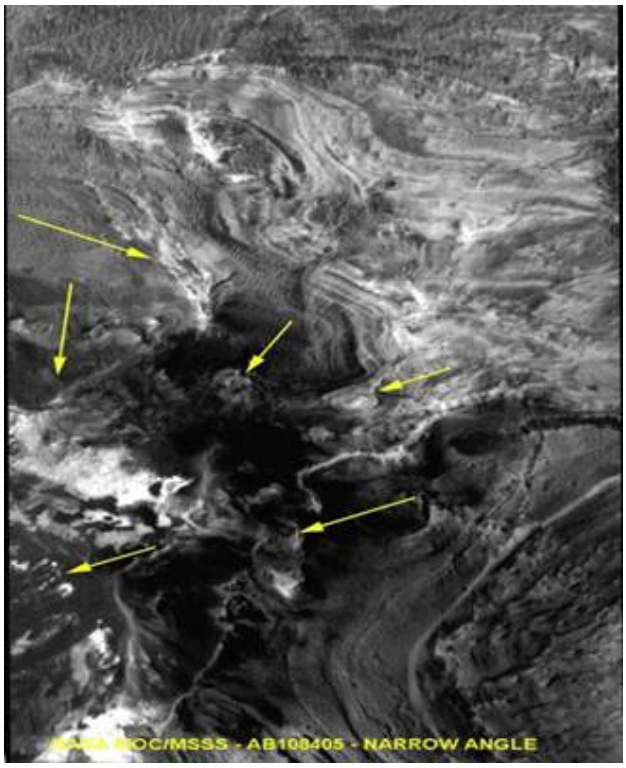
The following pictures are a very small selection I found from an exhaustive and painstaking exploration of the Malin Space Systems archives. These pictures always form part of a larger image and therefore require magnification to isolate the interesting details so some digital sharpening will have occurred. They are originally in black and white and virtually all of them have had to be re-processed in order to bring out the detail that would normally be hidden in the digital 'noise' of the photo. Some have benefited from a judicious use of colour where no colour existed in the original image. That has been done in order to make the resultant image look like something you might expect to see three dimensionally on Earth. However, many of the images may bear no resemblance to anything you may have seen before. Most of them have received contrast enhancement and some digital sharpening where appropriate together with yellow arrows to point you to a point of interest, and some have been rotated for easier viewing. In all cases, image manipulation has been confined to making the image more discernable to the viewer however, I must emphasise *no change has been made to the raw data and the numbered captions are the actual catalogue numbers in the official image library.* I appreciate that many of these images may be controversial and I make no claims that they are conclusive proof of any Martian civilizations or current occupation only that they merit further investigation by virtue of their anomalous presence on what is generally perceived to be a 'dead planet'.

Inevitably, the definition of many of the images is sometimes poor, perhaps not through deliberate post production masking of their true nature, but because of the high magnification needed to show some of the remarkable structures that would normally be hidden from view. In some cases, it is necessary for the eye to interpret what it sees and some people may only see 'natural 'structures, others may see nothing at all and may wonder what the all fuss is about. However, remember these photos are the official images released to the public

domain. The fact that they have been released at all might indicate more than a slip by the authorities.

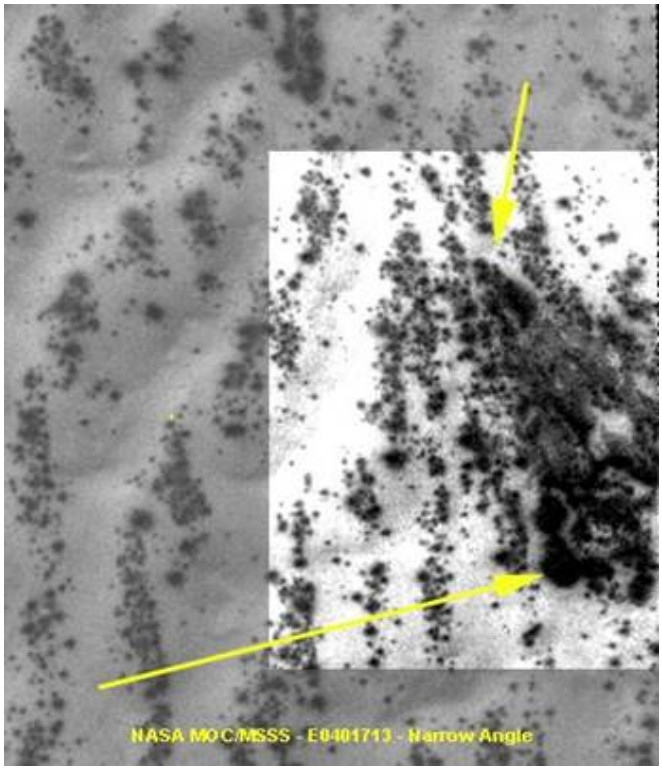
Most of the images seem to denote what can only be described as mining type activities. If that is the case, we should see evidence of old worked out mining activity and current mining activity and both seem to be in evidence from the Malin camera photographs. The most visible are open cast type mining and that is readily apparent from these images.

With this kind of industrial extraction of ores or minerals you would expect to see some forms of habitation, whether it is old and ruined or shiny and new...both types can be seen with a trained eye. However, there is much more to be seen, from what appears to be ruined and abandoned machinery to many anomalous objects which really should not be there on the Martian surface. Even if we discount the many crashed Earth probes that ended up on the surface of Mars we still have a very large number of anomalous objects that cannot be explained. Strange lights, tracks and geometric shapes exist on Mars for all to see if you search for them with diligence. However, the most exciting find has to be evidence of life on Mars and the image of the double helix and possible buildings at the South Polar Region indicates that life does exist on Mars. I have little doubt that the Mars Global Surveyor archived data holds even more discoveries which awaits the curious. Perhaps I should let the pictures should speak for themselves...



Southeast floor of West Candor Chasma – Long 75.45deg. Lat. 6.81deg.

This image shows what appears to be a large-scale open cast mining operation with many strange structures scattered around - some with an obvious artificial appearance. Several odd looking geometric structures or buildings (?) seem to be perched precariously on ridges or cliffs, particularly to the left of the picture. You can also make out what appears to be open cast mining tracks caused by heavy machinery. Is this area being mined for its valuable ores? If so, who is doing the mining?

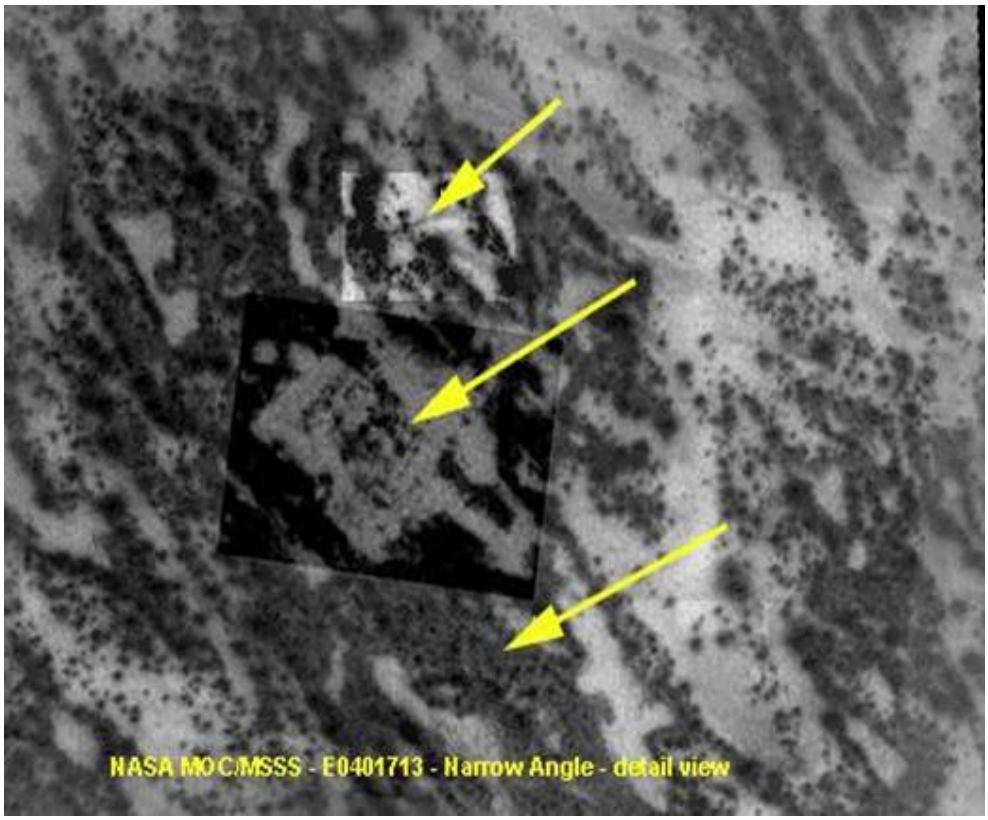


Charlier crater Long169.23deg.W Lat.68.43deg.S

This represents a magnified and enhanced view of what bears the appearance of a settlement. Whilst much of the surrounding area seems to be made up of huge sand dunes, the dark areas appear to be vegetation and it may be significant that the vegetation seems a lot more luxuriant around the geometric structures I have highlighted mostly hidden from view due to their colouration (or rather the lack of it). With close inspection you can see obvious three-dimensional structures, shadows and also outbuildings scattered around the main body of the 'settlement'. Interestingly, there does not appear to be any kind of discernable tracks to and from the 'settlement' but that may be due to a lack of image resolution rather than an absence of tracks if the 'settlement' is currently occupied.

Strangely, the dark patches of what appears to vegetation, seems to be on the highest points of the large dunes that surround the 'settlement' rather than in the troughs where you would expect reserves of water. However, if the dark patches are vegetation it seems there must be an ample supply of water for the vegetation to survive and flourish. The fact that the densest vegetation occurs around the settlement strongly indicates that it has been cultivated and

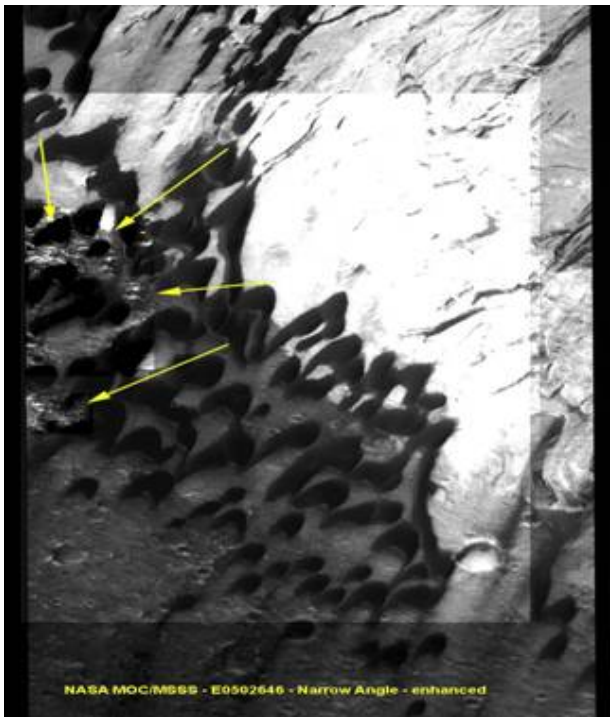
encouraged to grow or that it has been left unattended or an attempt at camouflage has been attempted.



Charlier crater – detailed image

This hazy photo is a more detailed version of the previous picture clearly showing geometric structures in the centre ground together with what appears to be a walled courtyard and outbuildings. You can clearly see that the magnified image has a three dimensional quality with shadows where you would expect them to be. To the right of the main building there is a round structure and a large open rectangular building together with some strange looking domed looking structures that appear to be lighter in colour, probably due to their open ground position during the Martian day.

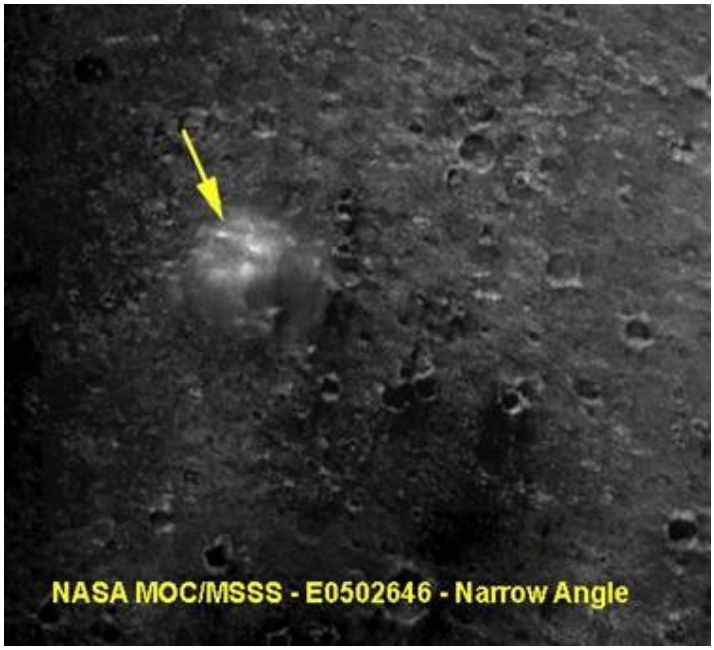
The settlement seems to be surrounded by a vast amount of vegetation and what appears to buildings on all sides so could we be looking at some kind of food or energy processing plant?



Becquerel crater – Long.8.82deg.W Lat.21.51deg.N

These strange looking dark shapes have often been called ‘dunes’ by official sources. However, these ‘dunes’ appear to be backed into a cliff face! The lower pattern of ‘dunes’ give the appearance of being hollowed out sections in the surface floor but the patterns on the rock face seem more like graffiti … not solid at all. Towards the middle left of the picture, and highlighted by arrows, there are what seem to be, buildings…. may be dwellings as there is little sign here of industrialisation.

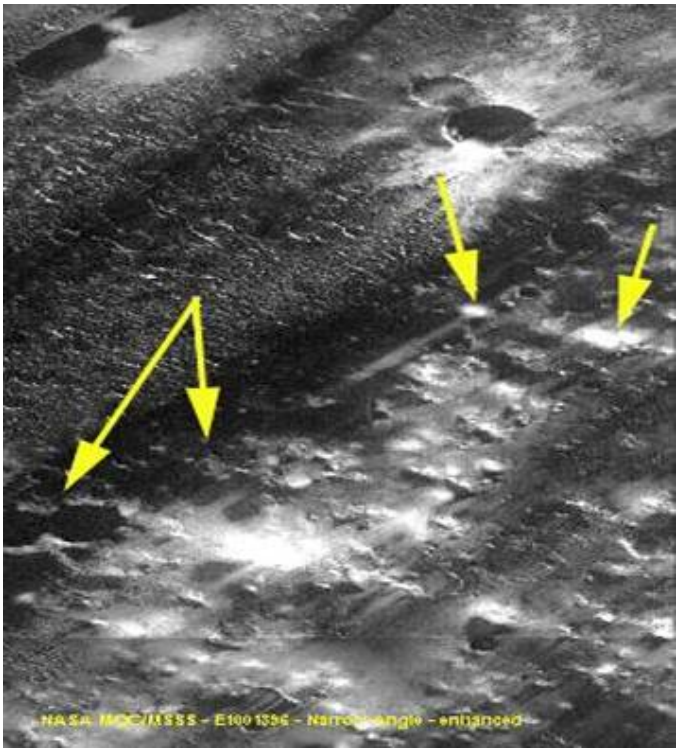
It is a pity that the photo did not extend more to the left as we may have seen more evidence of habitation. This photo could be the subject of official tampering techniques to try and hide detail...note the structure of the peculiar shadow shapes to the right of the ‘habitations’ in the left segment of the photo. Unfortunately, the detail in this photo is too small to enlarge with any clarity.



Becquerel crater area again.

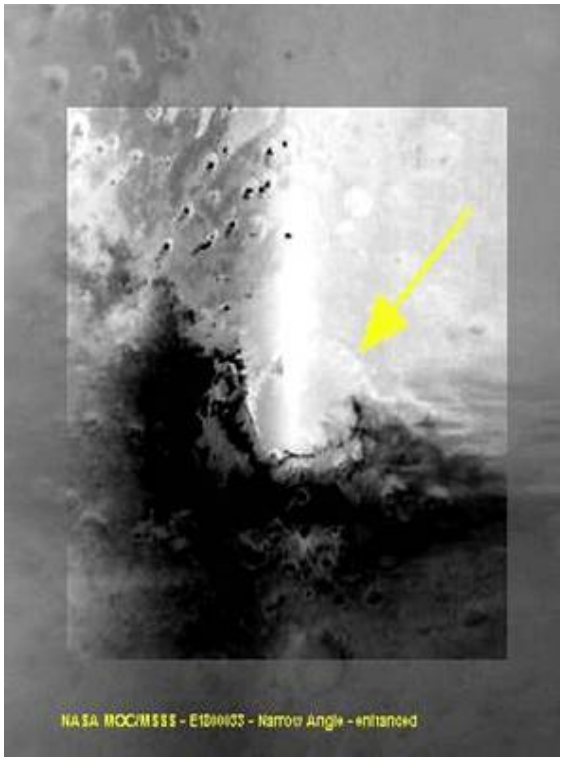
This ‘bubble’ seems to be hiding a lot of detail within its’ misty appearance. You can see that there are five or six tower like objects clearly discernable almost poking through the mist or halo. Could the mist be gas or a by-product of habitation or industry?

This kind of ‘misty’ covered object is repeatedly found on Mars. The mist haze or dust could be a natural result of some unknown industrial process but it could also be an attempt at tampering using post production digital-manipulation techniques back on Earth. It could also be the result of technology to produce an artificial local breathable atmosphere.



Herschel Basin – Long.229.47degW Lat.14.26degSEast

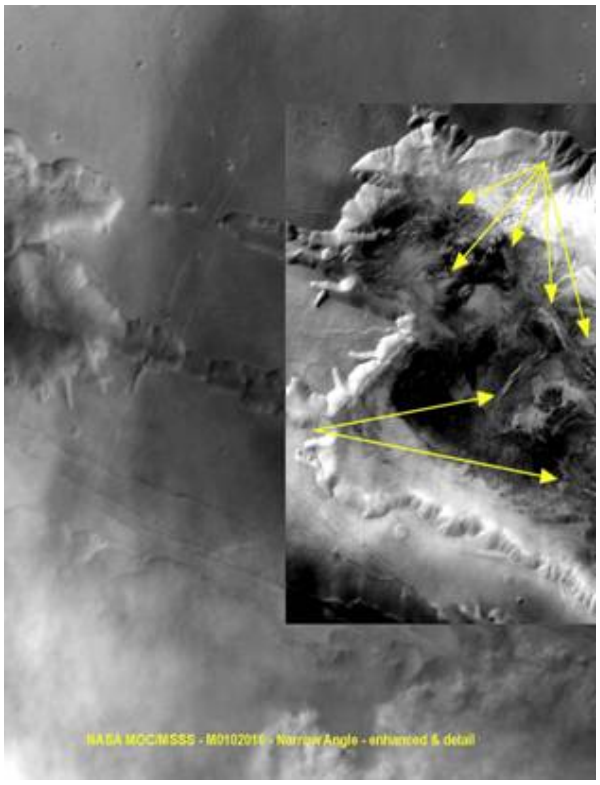
This grainy image shows what appears to be a highly illuminated area. Bright light beams shine all around the area and in the centre left of the image you can clearly see projected beams. There are also ‘buildings’ highlighted with arrows. Could this be a new industrial undertaking? In the top left of the picture you can make out another ‘misty’ type structure with evidence of substantial structure behind the shrouding cloak of haze, dust or artificial atmosphere. There appears to be a lot of tampering or shielding effects in the photo so that details cannot be observed. Whether that has been done in post production or by someone else is open to interpretation.



Long 350.67deg.W Lat. 16.99deg.N

There appears to be another very strong light source here - this time shining from a crater. It is hard to see how camera ‘bit errors’ could cause such an anomaly. You can just make out some detail at the bottom of the crater and there seems to be a number of rectangular features place around the floor of the crater. The light source appears to be coherent...that is, it appears to be a focussed beam of light rather than just a glow from inside the crater. Even though the light source appears to be a coherent focussed beam, it must be of colossal size and intensity as it has illuminated the crater walls without touching them. Note the odd looking, but indistinct, structures around the base of this crater and the enormous trapezoidal arms supporting the whole structure which looks more like the mouth of a volcano than a crater.

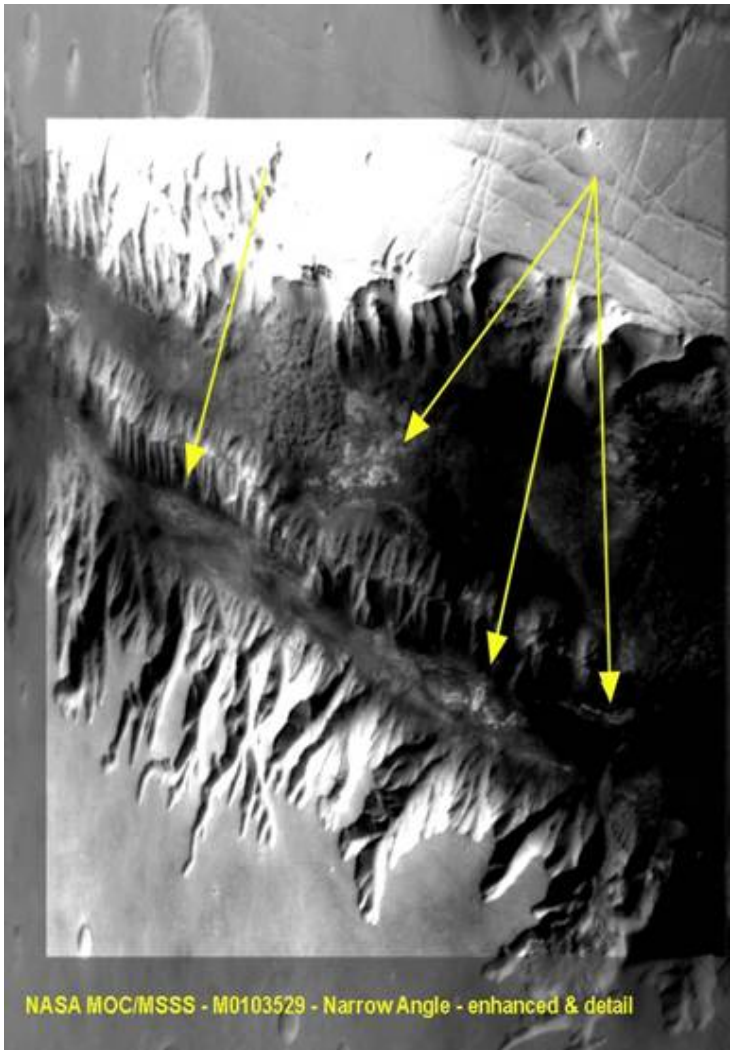
It is difficult to imagine what kind of natural occurrence would create such an intense and focussed light source. If it is not natural, it means that someone is producing it but for what reason?



Long 80.85deg.W Lat.6.26deg.S

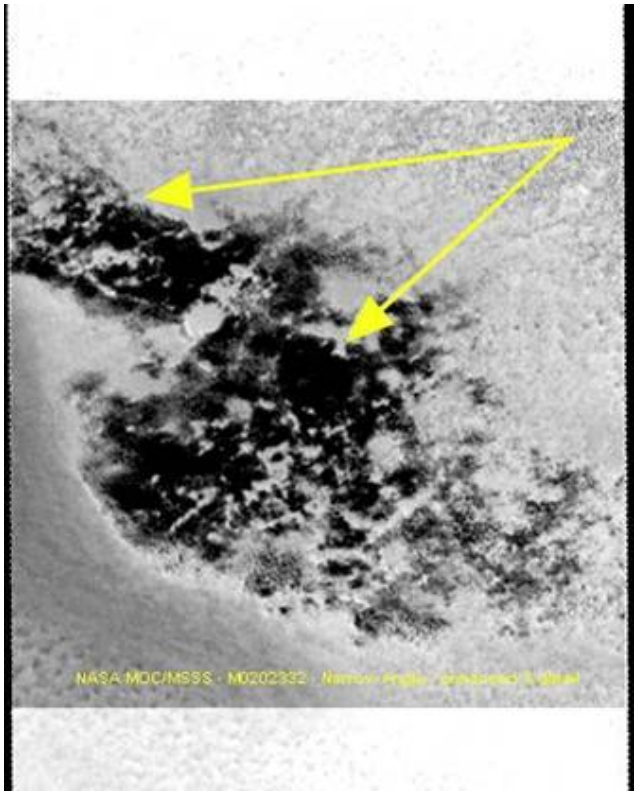
Close inspection of this image will reveal more mining type infrastructure with geometric tell tale signs of what looks like large unidentifiable artificial structures. All around are precipitous cliffs and scarps. Could this be a worked out and long since abandoned mining operation?

Around the floor of the worked out centre left in the image appears to be extensive artificial shapes which could be abandoned dwellings or machinery.



Central Valley Marineris – Long 77.92degW Lat. 5.23degS

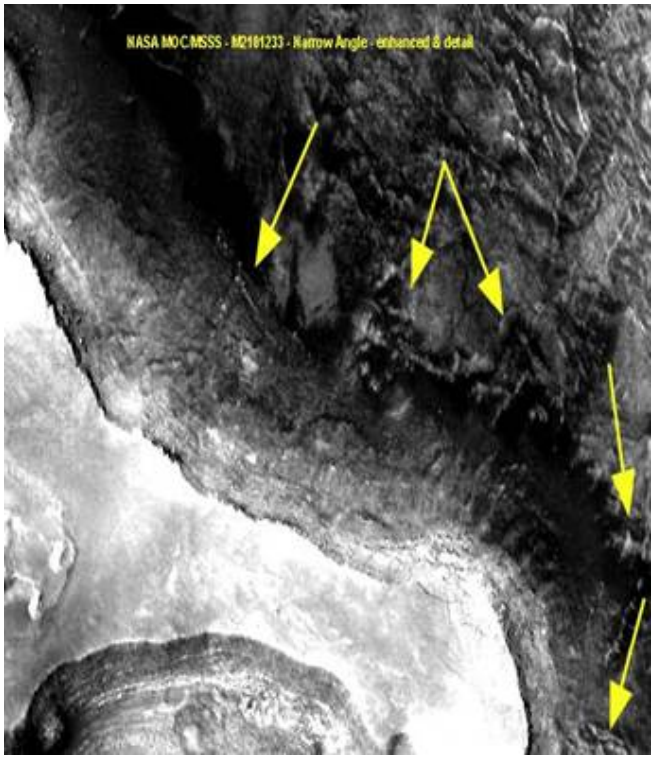
This image shows what appears to be another mining operation. Infrastructure is highlighted all around this vast site. There appears to be a considerable number of geometric shapes in the top right of the frame that gives the appearance of being artificial. Unfortunately, the middle ground and what appears to be a vast cave entrance cannot be seen because of deep shadows. Huge weathered or worked out rock faces abound in this photo.



Long.143.7deg.W Lat.77.45deg.N

This fuzzy image appears to be of a very old, chaotic structure. However, the three dimensional detail seems to show a lot of subsurface machinery or buildings that have become exposed due to probable erosion or subsidence. Due to the varied nature of the many shapes in this frame, it seems unlikely that digitization has caused the characteristic 'blocky imagery' associated with high digital magnification. However, this image would not have been available from the raw data unless it was digitally enhanced and magnified many times.

The crustal nature of the weathered top surface may be volcanic ash as it is unlikely to be formed from sedimentary deposits due to the excellent preservation of the 'machinery'.

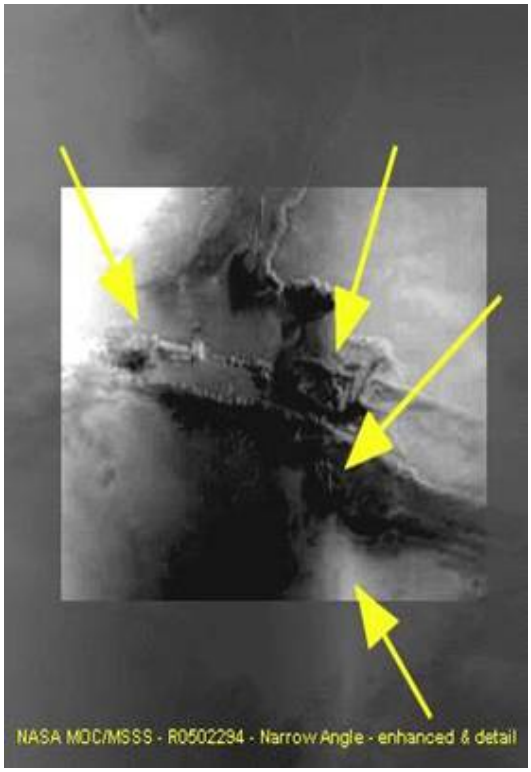


Long.286.98deg.W Lat.29.70deg.N

This image shows what appear to be a shoreline and much industrial type plant around the edges. You can make out giant tubes (metallic?) and in the lower right hand corner and what appears to be either dwellings or storage facilities. It does not look as though this particular installation is currently a working complex. The canyon floor seems to have once been a wide water course. The highly specular nature of this 'water course' may indicate it is currently comprised of CO_2 ice or even water ice.

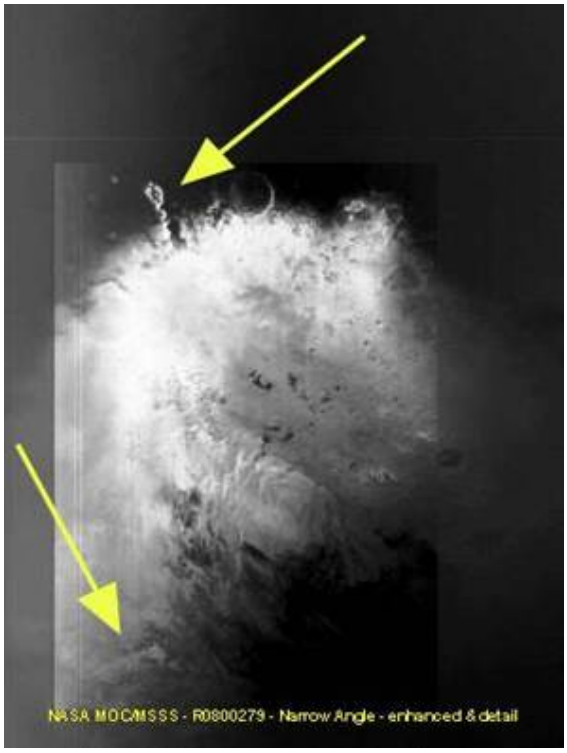
Long.297.34deg.W Lat.26.96deg.N

Some of the celebrated ‘glass tunnels’ seen all over Mars. These ones look to be in serious decline with some sections caved in. Might these be the petrified remains of the monstrous roots of an enormous plant that had searched unsuccessfully for moisture in the arid surface of Mars? Or...are they something else? This image has been colour manipulated and enhanced to bring out more observable detail.



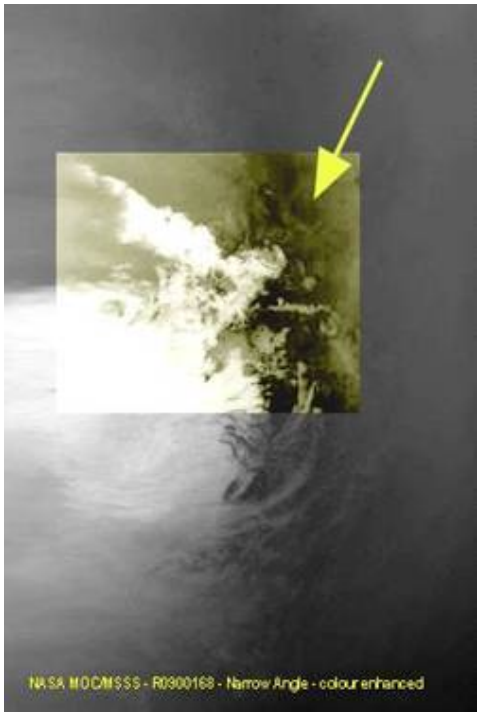
Long.80.35deg.W Lat.5.07deg.S

More interesting features here of odd looking geometric shapes, including what appears to be a bridge over a deep chasm with possible architectural ruins strongly suggesting artificial structures.

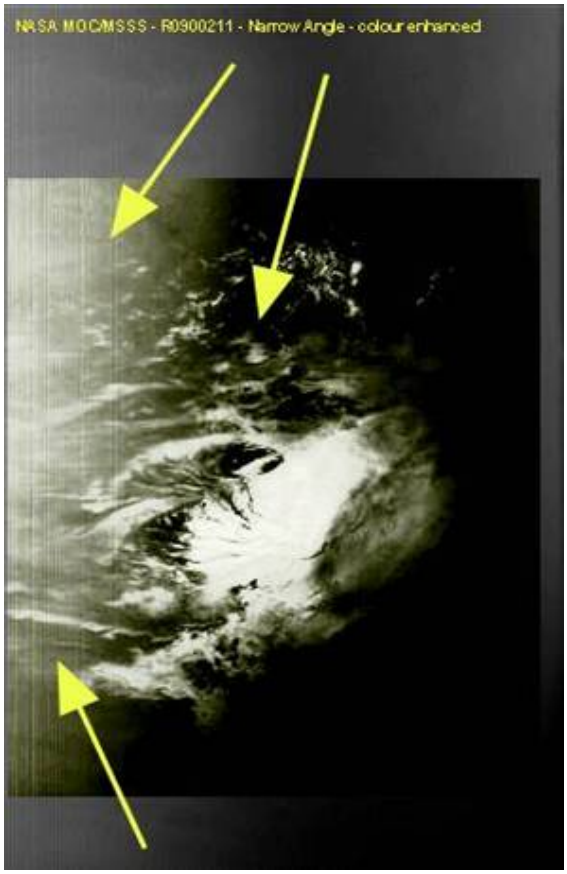


Strange features in the Martian South Pole:

These perplexing shapes should be cause for some excitement as there are clearly geometric patterns in the lower left corner that look as though they have been partly obscured by misty Martian clouds. The very odd looking helical shape looks as though it is some kind of enormous living vine that has weaved its self supporting progress upwards through the clouds. We have no similarities or parallels on Earth of such a monstrous object.



The Martian South Polar Region again showing what appears to be odd looking structures and vapour. What appears to be a huge vertical tower with various appendages and a large circular construction on the top seems to be emitting dense vapour. Note that the vapour is travelling from right to left of frame horizontal to the perpendicular indicating a strong atmospheric wind. Odd looking structures surround this object in the whole of this frame.



More geometric shapes revealed by the retreating ice at the Martian South Pole. Is this conclusive evidence of a Martian civilization? Note the strong geometric shapes in both the upper and lower segments of this frame.

MOC/MSSS – R1701825 Narrow angle – Segment

This picture is a short segment of a much larger image and all around can be seen striations, smoothing marks, deep ridges, straight tracks and circular holes (boreholes?) The whole area is reminiscent of an extensive mining operation or of an ancient enegetic lava flow.

There are many anomalous shapes that can be seen in this image but the really interesting one has been highlighted by digital sharpening and digital contrast enhancement to bring out as much detail as possible. *(Author: there have been no image enhancements other than those already described and those necessary to improve the image for viewing purposes as the original is of very low contrast).*

The object left of centre seems strange inasmuch it does not appear to fit in with the rest of the extremely disrupted terrain. It is very specular in nature and gives the appearance of being a highly reflective domed surface suggesting a metallic object. A bar or tube seems to be an intergral part of the structure and it extends for over a half of the object's circumference. The object can only be artificial in nature...the questions are, what is it? And who owns it?

These pictures released by Malin Space Systems seem to be clear evidence that someone is or has been living and working on Mars! NASA and therefore the US Government also know that fact but they have persisted in the 'looking for microbial life' charade with their Martian probes roaming the cold arid deserts of Mars – *It is almost as if NASA has been told that would be the only place they would be allowed to set down their probes!*

Significantly, NASA's intended exploration of the Martian South Polar region via their Deep Space 2 lander would not have touched down (if it had survived) in the more 'interesting' regions as shown in these Mars Global Surveyor images – was their decision purely pragmatic for terrain considerations of one of deliberate intent for reasons we can only guess at*? Or could it be that humankind is already maintaining an outpost on Mars in collaboration with the visitors?*

It may be revealed one day that Mars was mankind's ancestral home before it met a terrible catastrophic event that ended life on the planet. Our visitors may now have claimed Mars as theirs and are now spreading their civilization throughout our solar system. Mars is not the only planet or planetary body that shows either signs of intelligent life or an intelligent life that once existed. Our own Moon has many anomalous features and strange events on its surface get reported by astronauts, astronomers and moon watchers. Saturn's moon Titan also has many strange unexplained features that could be the result of the activities of civilizations other than mankind and in the future we await discoveries on Europa. There is little doubt that as probes journey to other planetary bodies in our Solar System, more evidence of intelligent life will emerge.

With more discoveries of possible habitable planets being made as a result of the exploration of space and our own stellar 'backyard' surely it is time for us to make the first tentative steps to join the space community and come of age. We shall find that life is not rare in the Universe but is actually *endemic* to the Universe as a natural consequence of Nature wherever it can gain a hold, even in a hostile environment. Our fears, beliefs and rituals must adapt to the idea that we must share our worlds because that is the future of mankind...clinging to the past and the way of mankind could ultimately result in the extinction of our species. The coming acceptance by the Catholic Church to legitimise the prospect of intelligent alien life indicates that governments may now follow leading to the disclosure that our world is being visited regularly by space

people. If, as it is planned, NASA gets the funding to send a manned orbital mission to Mars in the 2030s and return safely followed later by an actual manned landing on Mars we will learn more about the planet than we ever could using orbiters or robotic landers...*if humankind is allowed to know the truth about Mars and those who are already living there!*

Some of the friendly visitors are probably resident on Earth and hopefully may even be encouraging our rulers, both temporal and spiritual, to let us know the truth at last? There is, unfortunately another possible darker side...might all of humankind belong to an alien family tree? Perhaps *we* are the half-breeds of this long forgotten millennia-long hybridization where the original inhabitants of Earth were relegated to such a severe and absolute decline in their species so as to eventually become extinct? *Or, somewhat less benevolently...are our visitors attempting to hybridize their species with ours? Could there be more than one visitor species fighting each other over the domination of Earth, it's limitless and bountiful resources...as well as fighting over domination of us?*

All of these big questions must be addressed by our rulers soon as increasing amounts of evidence become available...not just from the burgeoning number of UFO sightings and encounters in our skies, sea and land but from data sent back by our planetary probes. As the pressure builds for increasing disclosure by governments it will become ever more imperative that the populations of the world have to be told the truth. Crucially, we must not sleep-walk into any kind of conclusions without our consent...certainly by the mid 2030s if the US Mars Mission stays on track, we must know where we stand with the visitors...humankind may then move forward to its true destiny if our species can survive the intellectual and emotional collision of sharing worlds with other intelligent beings. Hopefully, that may not be too late for humankind.

Notes:

(A little of what we think we know without any help from aliens)

Planck's Constant

Planck's Constant, 'h' is fundamental to Quantum Physics and relates to the frequency of a radiation, 'v' with its quantum of energy 'E' according to the formula E=hv.

The theory accurately predicts measurements of better than one part in a billion but the official value of Planck's constant has gone up over the years. The biggest change thus far recorded was in the period 1929 to 1941 in which the value went up by more than 1% and it is said that the increase was mostly due to the change in the value of the charge on the electron. Unfortunately, experimental measurements of Planck's Constant do not seem to yield answers as these measurements involve not only the charge on the electron, but also its mass…if either aspect changes then so does Planck's Constant. Interestingly, Planck's Constant continued to rise during the latter half of the 1950s to the 1970s. Each increment exceeded the estimated error in previous accepted values. The latest value (1988) is reported to show a slight reduction.

Many attempts have been made to understand the changes in Planck's constant by studying the light we receive from quasars, which because of their red shift are assumed to be very distant objects. Scientists think it reasonable to assume that the light we receive from these distant objects should be different from more 'recent' light and therefore measurements can be taken which will highlight any changes in the Constant. As it happens, small differences were found which led scientists to believe that the value of 'h' varies by less than 5 parts in 10^{13} per year. However, critics have pointed out that the calculations that assume 'h' to be constant may be flawed. There is also the question of what appears to be a very variable 'c' (light speed) which the calculations used.

The speed of light is *not* constant as is generally thought. It is known that the speed of light had a lower velocity from 1928 to 1945 (299,792 to 299,773 Km/s which after 1972 was defined as 299,792.458 plus or minus 0.001 2 Km/s). Whilst many scientists have thought that the speed of light was variable,

the only serious attempt at stating that view was put forward by Gheury de Bray in 1934. The current position appears to be one of stalemate with traditionalists believing that those whom re-evaluated the speed of light constant were bound to find discrepancies because they were, after all, looking for discrepancies. The recent discovery at CERN on faster than light measurements may prove to be of momentous importance if found to be true.

Planck's Constant is a very small number indeed and Werner Karl Heisenberg (German physicist 1901-1976) proved that the product of the uncertainty in the position and the uncertainty of momentum of a particle was equal to Planck's Constant. Seeing that the uncertainty in position of particles is very small, there exists a practical demonstration of the principle in which we can observe it happening in our reality.

This can be seen in the 'tunnel diode' (an electronic semi-conductor device capable of low noise amplification of frequencies up to and above 1,000 megacycles a second. The device makes use of the so-called 'tunnelling effect' predicted by quantum mechanics, of the piercing of a potential barrier in a semi-conductor by a particle that does not have sufficient energy to surmount the barrier.

The wave associated with the particle - wave/particle duality - suffers almost total reflection at the initial slope of the barrier but a small fraction emerges on the other side) electrons on one side of the barrier may appear on the other side because the barrier is thinner that the predicted uncertainty in the position of the electrons.

Some constants do not rely on dimensional constraints. One such constant is the ratio of the mass of the proton to the electron. Physicists believe that the 'fine structure' constant (derived from the charge of the electron, the velocity of light and Planck's Constant) could be one of the key magic cosmic numbers that the so-called 'Theory of Everything' should be able to explain. During 1929 and 1941 this constant increased in line with the increase in Plank's Constant and the partial offset in the fall of light speed by about 0.2%.

However, the value of the 'fine structure' constant increased over 12 times from the estimated errors that occurred during 1951 to 1963 and the increase from 1963 to 1973 was almost 5 times the estimated error for 1963. This has lead cosmologists to speculate that the 'fine structure' constant might have something to do with the age of the Universe.

Studies by astronomers of distant astronomical objects using the red shift paradigm have suggested that there is no change in the constant. Unfortunately, using the tools at our disposal i.e., other constants needed to make the calculations, we rely heavily on the assumption that these constants are de-facto constants and are not variable 'constants', which continually fluctuate in a living and chaotic Universe.

It is thought that for convenience, there ought to be definite limits to the scale of our reality in order to make sense of the Universe in mathematical terms. Accordingly, scientists consider that the shortest time that can be thought of as 'real' and has any meaning is about 10^{-43} of a second! Using light speed in a vacuum as a constant (we have already mentioned that light speed is now seen not to be a constant) the minimum length that may be thought of as 'real' will be $2(10^{-43})$ which equates to the distance light travels in that time. These measurements are known as Planck time and Planck length respectively.

Any change in Planck's Constant will have some interest for particle physicists who use it to calculate the spin, or energy state of atoms and sub-atomic particles. The calculation utilises the expression 'h' which represents Planck's Constant divided by 2(pi) (pi = 3.14159265). The spin of sub atomic particles is always expressed in either an integer, or a sub-multiple of ‘h’. The particles which are calculated to have integer numbers are called 'bosons' and the particles which have half integer multiples are called 'fermions' (see Particle Physics). According to the Pauli ‘exclusion principle’* any number of identical bosons may exist contemporaneously in the same energy state, but fermions may not - no two identical fermions may exist contemporaneously in the same energy state.

*Wolfgang Pauli devised his exclusion principle in 1925, in which he stated that no two identical particles known as fermions could exist in the exact same energy state at the same time. Fermions include electrons, neutrons and protons, which comprise most of what we know as ordinary matter.

The Sun

There are two known methods in which stars use nuclear processes to convert matter into radiant energy. The first is what is called the 'CNO cycle' (carbon-nitrogen-oxygen cycle) and is predominantly used in stars of about 1.5 times the mass of our Sun. Stable temperatures of around 20,000,000º K are

also necessary to keep the process going. The second process is called the ‘p-p cycle’ which own Sun uses.

In the CNO cycle a proton tunnels (see below re: tunnelling) into a nucleus, which contains 6 protons and 6 neutrons (a carbon 12 nucleus). The new nucleus produced is nitrogen 13 (which is radioactive) and it emits a positron and a neutrino, transmuting as a result into carbon 13. When another proton tunnels into this new nucleus, it transmutes into nitrogen 14, which transforms into oxygen 15, also radioactive. Oxygen 15 ejects a positron and a neutrino transmuting into nitrogen 15. But if another proton tunnels into the nucleus of nitrogen 15 it will eject an alpha particle and two protons and two neutrons will bind together to form a helium nucleus. What remains is a nucleus of carbon 12. Which is how the cycle started (it should be remembered that the name of an isotope is dependent on the number of protons present but its isotopic number is the combined total of neutrons and protons).

In the process described above, a star operating on the CNO cycle will release a lot of radiant energy and even a comparatively small amount of carbon 12 at the star's core will enable it to catalyse the hydrogen conversion into helium keeping up the operating temperature. However, our Sun does not use the CNO cycle to generate radiant energy. It is less massive and less hot than the CNO star and uses what is known as the p-p chain (proton-proton chain).

A collision between 2 protons where the tunnel effect allows the protons to get close enough to combine and transform into a deuteron, ejecting a neutrino and a positron whilst doing so, another proton has then the opportunity to tunnel into the deuteron, which produces a nucleus of helium 3 which contains 2 protons and 1 neutron. When 2 nuclei of helium 3 collide they form a stable nucleus of helium 4, ejecting 2 protons in the process. Around 95% of helium 3 nuclei follow that route but the remaining 5% do have a different option. As it was in the CNO cycle, 4 protons get converted into a nucleus of helium 4 and radiant energy is released. This p-p chain of events works at temperatures as low (in stellar terms) of 15,000,000^{o} K - fortunately for us!

Calculations’ concerning the tunnelling effect reveals insights that are truly startling. Even at the stupendous temperature of 15,000,000^{o} degrees Kelvin interactions between particles involving the p-p reaction can only start if a colliding proton is travelling at speeds at least 5 times faster than the average. The proton also has to strike the target proton exactly head on to achieve the

tunnel effect. A glancing blow is just not good enough to pierce the strong nuclear binding field.

In our Sun, it seems that just one proton in a 100,000,000 is travelling fast enough to do the job, even if it can achieve a direct hit! Even then, one of the 2 protons must eject a positron during the infinitesimal small amount of time they remain close enough for tunnelling to take place, otherwise they will not be able to form a deuteron as just 2 protons are not stable enough to form a lasting nucleus. Every proton in the Sun's core is constantly colliding with other protons millions of times each second. According to quantum physics, scientists calculate that on average it would take a single proton around 14,000,000,000 years to find another proton in which it can make a deuteron by the tunnelling process.

It is logical to assume that this will not always be the case, as some protons will take a much shorter period to find suitable partners than others. As the Sun is only about 4.5,000,000,000 years old it follows that every proton has not yet found a partner – fortunately, there are trillions of protons in the Sun an even with one collision in every 10 billion, trillion (1 in 10^{22}), the number looks like this - 10,000,000,000,000,000,000,000 - which starts the p-p chain going. With just 0.7% of the mass of each set of 4 protons being converted into energy (total conversion of mass into energy called the total annihilation process) in forming the helium 4 nucleus, around 5,000,000 tons of the Sun's mass is converted into energy in the Sun's interior every second!

So far, the Sun has only converted about 4% of its total stock of hydrogen into helium even though the p-p chain of events has being taking place for around 6,000,000,000 years. With a potential life span of about 13,000,000,000 years it is expected that it will last for another 7,000,000,000 years and start to lose its current brightness in about another 1.5,000,000,000 years. It radiates energy equivalent 4,000,000 tons of matter every second (including neutrinos from its core). The amount of matter 'lost' in this way still only amounts to 1/5,000 of its original mass.

Astonishingly, the Sun produces very little heat per gram of material. In the 1960s, George Gamow in his book, 'A Star called The Sun' asked a question: 'If a coffee pot is said to produce heat at the same rate that heat is produced - on average - in the Sun's interior, how long will it take to start the water boiling in

the coffee pot? The answer is quite remarkable. Even if the coffee pot were perfectly insulated it would take several months for the water to boil!

The Sun has an average radius of 6.95×10^{10} centimetres and has a surface area of 6.07×10^{22} square centimetres. Around 8.8×10^{33} calories of heat energy crosses the Sun's surface area each second. The mass of the Sun is 2×10^{33} gram so it is only necessary for each gram of matter to produce an average of 4.4×10^{-8} calories per second. That is less than half of 1/10,000,000th of a calorie per second! Coffee percolators can do much better than this, but even more surprising, that figure is much less than the rate at which heat is released in the human body through natural chemical metabolism!

Particle Physics

As particle physics has been touched upon and forms a substantial part of Chapter 7 it seems appropriate to include some explanatory notes to help the uninitiated reader find their way through this jungle of arcane and exotic scientific thought (if you do not know already of course).

The tremendous growth in knowledge and understanding of the subatomic world (particles smaller than an atom) has largely come about through the use of particle accelerators. These machines use high electrical potentials and powerful magnetic fields to accelerate sub-atomic particles to speeds approaching the speed of light. Doing that gives the particles enormous kinetic energies and physicists study the consequences of deliberately colliding particles with one another at velocities approaching the speed of light. Energy is converted to matter for extremely brief moments in time and new particles can appear and then disappear in extremely short periods of time flickering in and out of our reality. The new CERN Hadron Collider will provide much new knowledge even if physicists do not discover the so-called 'God' particle - the 'Higgs boson' – the missing mass of the Universe.

Current theories maintain that each particle can be described in terms of mass, charge and spin. Whilst it remains unknown whether particles do actually 'spin' they do produce a very small magnetic field called, the 'magnetic moment'. In 1964 theoretical physicist Murray Gell-Mann introduced the concept of the quark and in 1969 he was to receive the Nobel Prize for his contribution to Physics regarding his discoveries. He thought that most of the elementary particles were made up from just a few super-elementary particles, which he called quarks. Quarks inconveniently have various masses and possess

charges that are either 1/3rd or 2/3rds of a single positive of negative charge. They combine in two's or three's to make other particles. Due to their unique properties it is possible to combine them in ways that either produces a positive charge, a negative charge or a neutral charge.

The way this works in practical terms could be that three 1/3rd positive charges combine to make one positive charge - a proton, while a combination of two 1/3rd positive charges combined with one 2/3rds negative charge would make a neutron, which is of course a negative charge. However, quarks do not appear to always be as predictable and can often cause particles to come into a brief existence that have no counterparts in our reality (as far as we know). Particle physicists have come to call these quark confections with names such as, colour, charm, strangeness, and beauty. Other names include top quark (truth), up quark, bottom quark (beauty), C quark (charm).

For ease of reference and to make the classification of particle physics manageable, subatomic particles have been segregated into various categories, but unfortunately some classifications are still recognised by different names. The main categories consist of:

FERMIONS

Leptons or elementary particles:

Electrons, muons, tauons, neutrino, quarks

Baryons

Protons, neutrons, two hyperons, three sigmas, two xis, omega

BOSONS

(Of quark manufacture) Mu Meson, k meson etc.... (So-called 'neutral' mesons could be a type of neutrino. A suggested name for these is the 'neutretto')

(Not of quark manufacture) Gluons, photons, + and - W particles, neutral Z particles, Higgs particle, graviton

Listed below is a stripped down, simplified version of what is known as the 'Standard Model'. Particle physicists use this characterization to discover how Nature may employ just a few fundamental particles as building blocks for

everything in our Universe. (Readers wishing to more about particle physics may find many books on the subject as well as the Internet as a valuable source of information).

Acknowledgement: Dr Alan H Guth.

Fermions - Quarks:

1st Generation	**2nd Generation**	**3rd Generation**
Up	Charm	Top
Down	Strange	Bottom

Fermions - Leptons:

Electron	Muon	Tau
Electron/Neutrino	Muon/Neutrino	Tau/Neutrino

Bosons - Force Carriers:

Weak interactions	Wplus Wminus Zzero
Electromagnetism	Photon
Strong interaction	8 Gluons
One Higgs particle	

Particle theory maintains each particle has its anti-particle. This is thought to provide the essential balance for Nature to work and matter to exist with stability. Gluons (which have not been mentioned previously) are believed to be the binding force particle carriers by which quarks are enabled to bind with protons and neutrons.

Quarks clearly play a very important role in the sub-atomic menu but it is thought there may be other equally interesting particles in existence but which we do not yet have the means to detect such as the theoretically possible 'tachyon'. This particle is thought to be able to exceed light speed without contradicting Einstein's theory of Relativity, which states that no object which has a velocity less than light speed in a vacuum can be accelerated to be faster than light speed in a vacuum. However, objects that *always travel faster than light and never travel below light speed may be possible.* Because of their theoretical greater than light speed, they would possess the property of reverse

time travel to our frame of reference. Unfortunately, we still await their discovery. Equally as exotic is the possible of the theoretical existence of the graviton, the electromagnetic function of gravity (the tachyon?). Even more exotic is the predicted 'axion' a particle that stems from studies concerning the GUT (Grand Unified Theory of everything).

The unseen world of particle physics includes many other more conventional and basic particles such as neutrons and protons that feature more in cause and effect in our Universe. If the nucleus of an atom emits an electron that electron is also called a 'beta ray' as previously explained, this process causes a neutron in the nucleus of the atom to have, if you like, a sex change into a proton. Even though neutrons carry no charge they do have a mass some 2,000 times that of the electron (an electron has a mass of 9×10^{-31} kilos).

In neutron decay an electron and a neutrino are ejected (physicists claim that the ejected neutrino should be considered as an anti-neutrino). The neutrino has virtually no mass and no charge to speak of when at rest - they also travel at close to light speed. However, Russian scientists claim to have experimentally discovered that the neutrino has about 0.006% of the mass of an electron, which equates to about 30ev (electron volts). Some other researchers say that figure is more likely to be 20ev.

Neutrinos do not interfere with other particles presumably because they do not possess the energy to penetrate the strong nuclear force. Instead, they react with what is known as the weak nuclear force introduced by theoretical physicist Enrico Fermi. Neutrinos are prolific in the Universe and to all intents and purposes are everywhere. Billions of them plough through matter (including us) every second, every day of every year.

In 1989 CERN (Conseil Europe/en pour la Rechere Nucleaire now renamed European Laboratory for Particle Physics) High Energy Particle Laboratories in Switzerland reported that measurements which restricted the types of permitted neutrinos to 3 types which belong to the quark fundamental.

Some of these sub-atomic particles do not want to exist in our reality for very long and the muon is a good example of that. The muon was discovered in 1936 and is very similar to the electron except that it is 200 times more massive. In the 1970s it was found that the muon - if left to its own devices - would decay into an electron, a neutrino and an antineutrino within just 2.2 microseconds (2.2 millionths of a second!).

General Relativity predicted ripples in space-time that are often referred to as gravity waves which some believe account for much of the missing mass of the Universe. However, a new particle was proposed which would account for much of the missing mass. That particle was generically called, 'Wimp' (weakly interactive massive particle).

However, space-time is not 'empty' at all and is packed with short lived particle/antiparticle pairs which come into existence and disappear equally as quickly in timeframes of mind boggling duration, around 10^{-44} of a second! It is thought that particle pairs must exist in order to balance the overall electrical charge and quantum probabilities.

When two 'virtual' particles come into contact with one another, say a negatively charged particle (an electron) and its equivalent anti-particle, (a positron) the process results in complete annihilation. In that way, the particles give back their energy to the vacuum, which they have very temporarily borrowed from it.

Because this in-vacuuo energy permeates everywhere, it does not flow due to differences in what is known as a 'potential' i.e., put crudely, for current to flow it must come from somewhere and go somewhere. In other words there has to be a difference in potential if we are to take advantage of such an abundant source of 'free energy'.

In the late 1940s a Dutch physicist named Hendrik Casimir whilst working on the problems of superconductivity, suggested that electromagnetic waves between two charged metal plates could only form certain stable wave patterns. Much in the same way that a stringed instrument will only resonate in a particular way when a particular string is plucked or bowed without fretting the instrument. The string will then vibrate at its fundamental frequency until the note decays as the string slowing down loses energy. Because the instrument's strings are firmly attached at each end of the string, it can only vibrate between those two points.

Casimir's experiments cleverly used a similar principle to suppress the vacuum's activity between the charged metal plates whilst outside the plates it would be business as usual for the vacuum. In that way, only particles with a wavelength equal to the gap between the two charged plates can reside there with particles of a greater wavelength being excluded. This results in a

differential being formed between what virtual particles exist between the plates, and which exist outside the plates.

The plates therefore tend to be pushed towards each other. Many experiments have been conducted by scientists to measure the strength of the so-called 'Casimir' effect and it is repeatedly found that whilst the force is extremely small, 1.4 to 15 nanometres (one nanometre is 10^{-9} or one 10,000,000,000 of a metre) it does exist. Whether this principle can be used to extract 'free energy' from the vacuum has, and still is, exercising many minds for obvious reasons.

There are a large number of researchers whom seek the holy grail of so called 'free energy' devices (I prefer to use 'over unity' as it better describes the current processes used i.e., electric generators). A number of electric generators have already been built which seem to contradict known electrical laws inasmuch they appear to generate more energy than is used or is lost in mechanical and thermal inefficiencies. Most of these generators stem from the early experiments of Michael Faraday when he was researching the first electric generators in the 1830s. He discovered that he could generate an electric current by rotating a cylindrical magnet that had a copper disk cemented to it at one end with an intervening dielectric separator.

Faraday found that the same effect could be achieved if the copper disk remained stationary and the magnet rotated. This 'hoopla generator' (a DC - direct current - generator in which the voltage generated in the active conductors maintains the same direction with respect to those conductors) formed the basis for a number of test machines for which it has been claimed their outputs exceeded their inputs when a load was applied.

One of the big problems for modern researchers to overcome was the well known, 'Lenz's Law which states that... 'For currents induced by motion in a magnetic field, the induced currents have such a direction that their reaction tends to oppose the motion that produces them'.... i.e., induced magnetic drag. There was also the question of mechanical friction to overcome, which reduced efficiency. However, despite all these problems, some devices have been built which seem to be very efficient, running cool under load and with excellent mechanical efficiency.

Researchers into over unity devices claim that science has misunderstood electromagnetic theory and that their experiments prove that the additional

energy their machines produces (it's claimed that all other electric motors or generators also work by distorting the theoretical tachyon field) comes from the all pervading tachyon field by creating magnetic distortions in that field.

This additional or 'spare' energy, they claim is free energy and some are confident enough in their research to patent the machines or processes they produce or discover. This kind of low-tech research may yet yield some major breakthroughs in the generation of electrical energy.

There is a theory called 'Super Symmetry' which seeks to predict that every particle is accompanied by a force carrier and every force carrier is accompanied by a new particle. All heavy particles decay into successive lighter particles until there is nowhere else to go or no lighter particle to decay into.

The theory predicts that there should be a hitherto unknown particle at large which is the lightest particle in existence, the aptly named, LSP (lightest super symmetry particle). The best bet at the moment is a particle that has been called the 'photino'. The particle will have a mass somewhat bigger that the proton and that it will react very weakly with matter, in fact…a 'wimp'. This LSP Wimp is part of a family that is thought by many cosmologists to make up the missing mass of the Universe in contention with those who search for the heavier Higgs particle.

Grand Unified Theory – G.U.T

Theoretical particle physicists have long searched for a theory that would link gravity, strong nuclear, weak interaction and electromagnetic forces. Professor Einstein laboured hard to find his 'Theory of Everything' but did not achieve this ambition in his lifetime. The most widely publicised theory concerns the 'string' theory in which it is considered that sub-atomic particles are not how we conventionally think of them as point-like pieces of matter, but are rather more like strings which vibrate at different frequencies, much like the strings of a musical instrument when plucked or stroked, except that these strings can vibrate on their own without being 'plucked'. Each frequency would therefore represent a different kind of particle.

A variation on the 'string' theory is called the 'Superstring' theory in which physicists propose that the strings vibrate in at least 10 dimensions (9 in space and 1 in time). They think it possible that the dimensions may have initially stretched to as many as 25 separate dimensions at the moment of the Big Bang,

but as the Universe stabilised and cooled these temporary dimensions ceased to exist in our space-time.

However, some think that they could still exist at the sub-atomic level. Unfortunately, it is beyond the scope of this book to expand on Superstring theory, or its history as it now seems certain that it too has now been superseded by what has become known as the 'M' Theory in the never ending search for a theory that will explain 'everything'. Even the Superstring theory become unpopular as an explanation to explain 'everything' in the face of another theory called, Super Symmetry, which presumed that all particles had their counter-parts. Unfortunately, theoretical physicists could not find any observational evidence to show that was the case.

However, 'M' theory ('M' standing for Membrane) mathematically proposes that our universe exists as just one universe in a family of multiverses. Each universe (including ours) is almost like a bubble with a rough and rippled surface that is constantly changing. Around each closed universe is a membrane (or brane) that closes off and separates each universe from its neighbour. Some theoretical physicists believe that the original hot Big Bang may not have taken place as a singularity but, may have occurred as a result of a collision between two incompatible universes along their respective boundaries (in this context, it is thought that incompatibility means the collision of two universes made out of opposite matter i.e., particles and anti-particles).

If they are right, it would mean the Big Bang might have occurred almost simultaneously over the unimaginable contact area between the two colliding universes. This would go some way in reconciling the problem with the observable background microwave radiation being the same in each direction we look, which remains one of the many problems with the conventional Big Bang model.

As far as I know, the 'M 'theory does not yet explain why two incompatible universes should collide in the first place, and the mechanism that decides the population of universe to anti-universe in the multiverse. Clearly, the 'M' theory does have some way to go. But it does have a major advantage over the Big Bang theory, in that it predicts time did exist prior to the birth of our universe...unfortunately, it also causes even more questions without any plausible hypotheses as to how that could have happened.

The Big Bang theory, The Inflationary Universe and an alternative suggestion:

Notwithstanding the new 'M' theory, some cosmologists believe that our Universe and the metaverses (other possible universes beyond ours in other space-time environments) maybe linked by numerous wormholes. Because of continuous fluctuations in the continuum caused by the outcome of quantum probabilities, some universes may get 'pinched off' from their parent universe and begin to form on its own as a discrete universe.

John Gribbin [26] reminds us that the theory will allow such a pinched out universe to form without us being aware of it and could be connected to our reality via a quantum wormhole(s), effectively a black hole(s) much smaller than a single proton. Some cosmologists believe that it could be possible for 'information' to leak through the theoretical tiny wormholes that interconnect the universes.

However, it is not at all clear as to how such a configuration could result from what is thought to have been a 'singularity', which caused the Universe to come into being in the first place. We are asked to believe that the whole of creation, matter, radiation, energy came into being from a singularity, an object which did not exist in time or space because time and space had not yet come into being.

A singularity smaller than an atomic nucleus, 10^{-14} or 0.000,000,000,000,01cm is thought to have created everything in the Universe where space is thought to pull matter with it as it expands - matter is not thought to push on space to make it expand. Many cosmologists take the view that the singularity may have come from a so-called 'White hole', the opposite of a Black hole. Unfortunately, whilst there seems to be many predictions of Black holes being extant in the Universe *(author: current observations would support this)* there is no way to corroborate the White hole theory. So, at least for now, it must remain theoretical as the cause of everything. Perhaps the fresh approach of the 'M' theory and the probability of less wormhole connectivity is a better solution. (In fact, the 'M' theory discourages the wormhole idea altogether).

Whilst much can be deduced about the nature and the behaviour of our Universe milliseconds after the Big Bang, nothing can be deduced prior to it and what form it took before it went critical unless we take account of the new thinking in theoretical physics. Equally, it is assumed that space was created at

the same moment of the Big Bang, but there is no explanation as to how a singularity can exist in 'nothing' (there is literally no such thing as 'nothing') and then explode 'something' into 'nothing' creating at the same time the space-time needed to accommodate the primordial plasma gas jetted into a void within a void.

These matters have not been well understood by the theoretical physicists because they are not felt to purposefully contribute much to our understanding of the universe in experimental or observational terms and are therefore inconvenient. It seems that we need to concentrate on the issue of pre-criticality if we are to have a better understanding of the development of our universe, its structure and its ultimate and inevitable demise. It is not sufficient to say anymore that time did not exist prior to the Big Bang and that the laws of physics just break down, so it's all open to speculation. At least the 'M' theory is an attempt to go beyond speculation.

A number of theoretical physicists now consider that the Universe came into being because of a system called 'inflation'. The inflation theory attempts to explain how the Universe expanded exponentially (a logarithmic growth giving rise to enormous values over relatively short timescales) as a direct result of a phenomenon called the 'false vacuum' which Alan H Guth [27] explains very succinctly.

The false vacuum is predicted by particle physicists as a kind of 'field' effect that existed at the time of the Big Bang has a negative pressure, which equates to a repulsive gravitational field (or effect). This repulsive field is thought to have caused the exponential expansion of the Universe.

The field is thought to be able to exist for very long periods but the first inflation theory had difficulty in accommodating how the decay of the repulsive field would not destroy the homogeneous nature of the Universe, due to what might amount to a sudden collapse of the field, and therefore fail miserably as a theory. However, the new 'inflation' theory promoted by Guth, has got around that problem by introducing a variant mathematical model of the system, which allows the repulsive field to gently incorporate the whole of creation (as we know it) without any relatively sudden collapses.

Students of the subject of the early Universe may recall that Albert Einstein did not believe in an expanding Universe. At the time of General Relativity he thought that the Universe was static. But that caused a big

problem, as something had to balance the Universe from collapsing under the strength of its own gravity. Einstein therefore had to include a mathematical proviso to prevent this in his equations.

This mathematical ‘fudge’ became known as the 'Cosmological Constant'. Guth reminds us that the false vacuum of the inflationary model prevailed for only a brief period in the early Universe but did create a similar repulsive gravitational force to stop the Universe from collapsing inwards. The cosmological constant has a value, which is either zero or around 120+ and according to Guth, is very much less than particle theorists predict. They interpret the cosmological constant as a measure of the energy density of the vacuum, which is expected to be very large indeed.

Whether this energy comes from virtual particles, WIMP saturation, perpetual faster than light tachyons, gravity waves (collectively and confusingly also called graviton particles), string or Superstring resonance or warped vacuum, to which I will come later, is unknown. However, this energy does exist and it seems considerable and is indivisible with the missing mass of the Universe - the so-called 'Dark Matter' (energy has mass as does matter…the two are interchangeable).

Dark matter is thought to occupy about 90% or more of the known Universe and is unknown and invisible to us, which seems incredible given the estimated proportion of it to 'ordinary' matter. According to Big Bang nucleosynthesis equations - nucleosynthesis is the process by which nuclear processes produce discrete elements - the Big Bang is thought to have only produced the lightest elements e.g., deuterium, an isotope of hydrogen containing one proton and one neutron, unlike ordinary hydrogen which contains just one proton helium-3, helium-4, and lithium-7. Heavier elements can only be produced in stellar factories which use nuclear fission and fusion processes) predict that the amount of conventional material i.e., neutrons and protons (baryonic material) can only be a small fraction of the critical mass density. In that case, it seems that the dark matter must be composed of some kind of matter, which does not interact readily with conventional baryons. The particle theorists have their money on the WIMP as a front-runner in the dark matter conundrum.

There are three main models of the Universe at present. The first is called the 'Closed Universe'. A closed Universe is one in which the mass density

exceeds a certain critical value (which is calculated from the expansion rate). Such a Universe is predicted to eventually collapse under the force of its own gravity.

The second type is called the 'Open Universe'. An open Universe is one where the mass density is less than the critical value. Such a Universe will go on expanding forever.

The third type of Universe is called a 'Flat Universe'. This kind of Universe is exactly balanced between the closed and open Universe and has a mass density exactly the same as the critical density. This type of Universe will continue to expand as the open Universe, but its expansion rate will get closer and closer to zero as time progresses.

Readers may be interested in the calculated critical value. It is thought to be in the region of 4.5 times 10^{-30} and 1.8 times 10^{-29} grams per cubic centimetre, which represents a very low order indeed (the spread here depends on which Hubble Constant value you adopt). Guth tells us that these ridiculously low values equate to having between just 2 and 8 hydrogen atoms per cubic yard in vacuuo!

Cosmologists use the Omega symbol to discuss the mass density/critical density ratio. If Omega is greater than 1, then the Universe is a closed Universe. If it is less than 1, the Universe is an open Universe and will expand forever. If Omega is equal to 1, then the Universe is known as flat. From studies of the mass density of the Universe, it is currently thought that Omega lies somewhere between 0.1 and 2. In other words, we don't really know what kind of Universe we live in! It could be any one of the three options - and possibly might be a combination of all three if the homogeneity barrier can be surmounted.

The traditional Big Bang theory (without the inflation model) has a serious problem with the initial value of the mass density/critical mass density ratio. Interestingly, Guth maintains that one second after the Big Bang, the value of Omega must have been equal to 1 and with an accuracy of 15 decimal places to define the Universe as we know it, otherwise, we would be living in a very different kind of reality!

The traditional Big Bang theory offers no explanation for this rather unique mathematical value, which Guth maintains must be incorporated into any

serious ideas about the conditions surrounding the Big Bang event. The most likely problem of our inability to define most of these problems may be as a result of observational errors or because we have not yet developed the research tools. It is known for instance, that cosmologists do have trouble in fixing the value of the Hubble Constant.

In 1920 Edwin Hubble (of Hubble telescope fame) discovered that distant galaxies appear to be receding from us (as observers) at an average speed equal to his calculations and the computed distance of the galaxy. When the gravitational influence of other galaxies slows down the one being observed, the effect is to decrease the value of the Hubble Constant which is currently somewhere between 15 and 30 kilometres per second per million light years. One of the big problems for cosmologists is determining the actual age of the Universe. Whilst it is generally agreed that the oldest stars we can see are around 12 billion years old, the Hubble Constant suggests that the age of the Universe should be 11 billion years old if the mass density is Omega 0.1.

If the mass density were equal to the critical value i.e., Omega 1 - the Universe would only be around 8 billion years old! Clearly, the Universe cannot be younger than the oldest stars. Guth advises us that the only way the calculations can work is if the Hubble Constant is 17 kilometres a second or less. An even greater puzzle concerns what is known as the 'Horizon problem'. Cosmologists believe that according to the Big Bang theory, there must be a maximum distance that light could have travelled since that event - that is called the ‘Horizon distance’.

They logically conclude, as there is no observable method of information that can travel faster than light that distance will be the maximum distance over which any information can be obtained.

According to studies of the cosmic background radiation which comes at us from all directions in space, it appears that it was released (or generated - a blast wave) some 300,000 years after the Big Bang - a very small cosmological period of time. The background radiation reaching us from all directions has a temperature which matches each point in space to an accuracy of more than 100,000:1 but it seems that two sources reaching us from opposite directions in the sky were separated from each other by 100 horizon distances?

As we cannot extract any information from more than one horizon distance, cosmologists conclude the only way that this anomalous result can be reconciled

is if the Universe began in a state of perfect uniformity. However, it seems that no thought has been given to any prospect that radiation reaching us from two different points might be as a result of blast wave reverberation.

Particle theorists can tell us much about the early Universe and it is possible for them to demonstrate what actually happened at an infinitesimal short period of time after the Big Bang. I have always been awed by that prospect and I repeat some of it here. Perhaps the reader will share my sense of awe and wonder.

On a timescale of 10^{-6} (0,000.001 seconds) following the initial Big Bang the temperature was around 10^{13} Kelvin, (10,000,000,000,000°). At that temperature baryons (conventional matter composed of protons and neutrons) cannot exist. Only the quark model can exist in this most basic building block of matter. It is thought that quarks and their counterparts, the antiquark (remember in particle physics every particle has an antiparticle) were roughly balanced in number.

Due to the annihilation process of quark/anti-quark the young Universe is believed to have been left with a very small number of unpaired quarks i.e., one quark for every 300,000,000 original quarks which have been destroyed by the quark/anti-quark process. It is thought that this final imbalance of what amounts to a victory of quark over anti-quark caused the Universe to materialise and blossom.

The reader will by now have realised there is much that is still not completely understood. However, all of what we have learned has been a result of painstaking research, sometimes over a whole lifetime, in the study of science. The advent of the computer has made it possible for scientists to network more effectively, and of course, they can now carry out more meaningful research in less valuable time and publish that research for peer review quickly. Even so, it seems that many basic questions still remain unanswered. Is it possible that our visitors may already posses the secrets of attaining faster than light speed ships? Do they have a better understanding of our Universe and its workings, and could we be wrong about many of our cherished holy cows?

To that end, I have developed my own theory of pre-everything. I am aware it is controversial and does not quite agree with what most cosmologists propose. Nevertheless, I do feel that it addresses some of the difficulties without

the extensive use of wormholes. I propose the use of tangential, adjacent space-time, which may or may not be arbitrarily stable enough to intersect other timelines. There are, of course, difficulties with my theory that will require more elucidation in due course. For the purposes of the thought experiment I have called it the 'Multiple Closed System Model'.

Multiple Closed System Model

In my model, all Universes are closed systems and their longevity depends solely on the mass they contain and how long it takes that mass to evaporate into radiant energy. I broached this model of the Big Bang in my first book, 'The Alien Intent - A Dire Warning' but have updated it as you see it in Appendix 2. But first it will be necessary to address some of the issues and problems raised in current theories.

The serious problem concerning the 'horizon' anomaly (where there seems to be 100 horizon distances when there should be only one) might be explained by three separate logical solutions. The first solution could be that our measurements are somehow just plain wrong, or that cosmologists are misinterpreting the results of their measurements.

The second solution may involve the reverberations of the initial Big Bang blast wave, which should be very attenuated by now. The third solution may be that as observers we are now cut off from the source of the Big Bang event due to folding or warping of the vacuum due to the natural inflationary processes within the Universe. As far as I know, no study has been made of the possibility of discovering the actual resonant signature of the Universe to establish archaic blast wave distribution, which might give us some idea as to the actual three-dimensional shape of our Universe. However, some recent tentative steps have been made in the US to identify archaic gravity waves from the Big Bang by using a large scale laser inferometer setup. If this succeeds, we shall be better placed to identify blast wave distribution. Right now though, the third solution could explain why no hot spot source has been located which would identify the original locality of the Big Bang and the apparent uniform background radiation that we observe in our part of the Universe.

Another intuitive proposition - if all the matter in our observable Universe is all the matter that there is and ever was, we should not be looking for a hot spot - we should be looking for a *cold spot*! The fact that the observable background radiation seems to be of equal intensity in every direction is

analogous to an observer being perpetually contained in a clearing that is surrounded by a dense wood. The observer might be forgiven for thinking all that exists *is* the wood, despite the fact that the wood may border a large expanse of water beyond the observer's horizon. Using this analogy it could be that the search for a cold spot is denied us just because of where we are situated within the cosmos.

In the first stages of an inflationary Universe that has more than one initial strand of expansion (*I proposed that the Big Bang became a 'Big Push' shortly after the ignition/chain reaction that initiated it. At that time, several strands including several discrete universes came into existence – but not all would become viable universes. We are of course, unaware of these strands or other universes and remain ignorant of where they might be or how many there are in existence)* it should be possible, and necessary, for the vacuum to warp or rotate as it transports accelerating matter in the form of highly charged and reactive quark plasma material. Only entropy over a vast period of time (perhaps 10^{300})* would destroy these fixed features of the Universe. Some of that original rotational moment of the Universe should be detectable - if we know how and where to look for it. The strange consequences of what is known as 'chirality' (Nature's apparent predilection towards the creation of chiral or right- handed systems) points to distinct design methodologies in the creation of systems in our Universe.

*This enormous number remains hypothetical. The age of the Universe is thought to be between 10^9 and 20^9 years old, depending on which numbers are used for the Hubble Constant, the most recent estimate indicates an age of 12^9 years. The Universe may not reach 10^{300} without an intervening catastrophic event happening, or as yet an unknown event which may result in its annihilation.

If what we observe is all the matter in the Universe, and the anticipated dark matter exists only as radiation, nebulous gas will all be eventually used in the formation of stars. To keep the system going it requires a natural balance to be made between gas use (star genesis) and supernova accidents. Without this balance our Universe will be a much different place. It will be a hot dark place as stars begin to evaporate their energy at the expense of their luminosity.

Whether a 'bounce' effect could cause another Big Bang under such conditions will depend on local energy levels, but I think it unlikely. Whilst I

am uncertain as to the methodologies as to how that might occur, such event triggers probably includes quantum gravity effects, about which little is currently known. Modern inflationary theory seems to suggest that everything came into being (or perhaps more appropriately - *leapt into being*) to a positive reality from a profoundly inactive state.

Where no time or space existed in compressed anti-time/anti-matter, something happened to initiate changes in the profoundly inactive state. An accidental 'positive' seed of 'our' matter may have set the system in irreversible motion – paradoxically, an event no more astounding than the analogy of a simple on/off (Yes/No) logic gate inside a computer.

However, I do believe that it is possible that cosmologists and physicists may have missed a very important point. An essential difference of my hypothesis with any other at the current time concerning the origination of our Universe (or any other Universes within the same model) is the prediction that there exists a third type of *matter other than matter - as we know it, anti-matter being the known opposite of matter and 'neutral matter' which exists independently of both the other types of matter.

**(The third type of matter may not have been matter as we know it…possibly consisting of transitory one-time super dense electrostatic fields devoid of atoms, electrons or any other discernable particles. On tunnelling through the WIMP barrier the field may have caused matter as we know it to come into being).*

The role of 'neutral matter' would be to separate matter and anti-matter so that no accidental catastrophic contact was made in either a matter or anti-matter environment. In this hypothesis all Universes created by a Big Bang (THE Big Bang) will be normal matter Universes i.e., where the same particles exist as in our Universe.

However, it appears that no Universe could have been created without matter/anti-matter large-scale contact. That could only have been achieved if the barrier between matter and anti-matter had been breached by a rip, tear or hole in the neutral matter barrier which would have been as a result of ‘wear’, or more as is more probable, an external force. *(In these strange circumstances, ‘wear’ may be thought of as a form of ‘evaporation’ due to sub-atomic decay, transmutation or deleterious effects of quantum tunnelling phenomenon or the cascade effect of quantum gravity which remains at present theoretical).*

M theory is similar except that it seems to predict closed universes within the multiverse, where as my model of the multiverse has a single parent Big Bang (with a subsequent ‘Big Push’) and is limited in scale by the amount of matter and radiant energy imparted to an individual universe at the time of its simultaneous creation with other universes. There is no requirement or necessity to have any more permanent dimensions in any of these ‘pocket’ universes, at least at the formative stage of their creation.

For us, or for any other beings in any of the 'other' universes created by the Big Bang, neutral matter would remain undetectable even if our instruments were thought capable of detecting it they would not as we should require instruments made of *neutral matter*, *not 'our' matter*. Quite what this neutral matter would look like or what properties it would have is open to conjecture, but it would be totally unlike anything thing we could currently envisage (even as super dense electrostatic fields which are unlikely to have survived).

Both matter and anti-matter are easier to contemplate as being an image and a mirror image of the essentially the same object. Neutral matter may not even have an 'image' as such and no atomic particles. Despite this lack of particles, this 'stuff' would have to be very dense and also very impervious to both matter and anti-matter otherwise it would not be able to contain matter or anti-matter.

To help the reader understand this concept, it is analogous to a boiling saucepan of water. Anti-matter would be the heat source, the water would be matter, and the neutral matter would be represented by the saucepan itself which separates the flame and the water. However, in neutral matter terms, the saucepan would have perfect insulation and the water (matter) could not ‘feel’ any warming effect from the flame (anti-matter). It is sobering to think that the Big Bang may have come about as the result of an 'accidental' event that broke the perfect insulation and, using our simple analogy, caused actual contact between water and flame. However, as you will see from Appendix 2, in my model it is unlikely that such an accident occurred due to a breakdown of perfect insulation as perfect insulation is undesirable for the ‘Multiple Closed System’ to work.

I have used the matter/anti-matter/neutral matter analogy as most people have heard of both of these terms. However, in reality the barrier between matter (as we know it) and anti-matter, could be an impermeable Higgs Field (see Appendix 1) or a non-baryonic (baryons form virtually all of the mass of

conventional matter - our matter - i.e., protons and neutrons) or exotic transient quark variants as yet unknown (see Appendix 1).

Whilst it has already been said that current thinking favours the idea that space pulls matter with it as it expands, rather than matter pushing on space to make space expand, that hypothesis tends to create more questions than answers. For instance, if space is so empty of matter and energy with just between 2 and eight hydrogen atoms per cubic yard how can it exert any kind of force on matter, and even if the hypothesis is correct - *what is space expanding into?*

We might resort once again to a simple analogy. If you have a bathtub say, half full of water - to represent space, and you load bricks into the tub of water the water will raise because the bricks are displacing the water. The water will continue to displace until you stop loading bricks into the tub. In that respect you are causing an expansion of the water, or in this thought experiment, space by adding matter.

This analogy is not perfect. It operates on the principle that you have a finite amount of house bricks and a finite amount of water - i.e., matter and space. However, reality may not reflect those parameters as it is currently unknown whether the Universe has either a finite amount of matter or a finite amount of space but for the purpose of the thought experiment demonstrates the principle.

We should also be mindful that matter can exist in many forms and may not principally exist as we have come to know it. We know that much of radiant energy exists outside our immediate perception so most matter may exist in the form of radiant energy and fields/particles which we are only just becoming vaguely aware of that continually skip in and out of our dimensional reality. In this respect, it may be more accurate to imagine that matter and radiated energy and fields displace space-time as they move through it in their journey of interaction with other mass or other energy concentrations *(author: the word 'move' is used here to convey the imagery of movement or acceleration in space-time and not to indicate motion in any particular direction as it is irrelevant to discuss relative movement without a reference point).*

Correspondingly, matter may not be either pulling or pushing space - it may be merely *displacing* it. Until more emphasis is placed on studying the vacuum

rather than the matter it contains, we shall not learn more about this exciting area.

Nikola Tesla

This flamboyant, enigmatic and visionary scientist [34] has largely been forgotten or ignored in mainstream scientific circles but it is true to say his discoveries and research into high frequency and low frequency EMF laid the foundation for much of what we enjoy today. Perhaps his best known and recognizable contribution to us concerns the popularization and use of alternating current (A/C). Without A/C we should be unable to supply electrical energy over great distances as the alternative, direct current (D/C) would be impracticable and dangerous in use. His 'Tesla Coil' also features highly in today's 'taken for granted' technologies where very high potentials are required.

The presaging of the logic gate patents in 1903 is a classic case of Tesla being ahead of his time and he did not know that his patent which described 'getting an output from a device when two or more signals were placed at the input part of the device' would form the basic design principles of generations of semi-conductors now firmly embedded in supporting our modern civilizations. His 1903 patents were in place to protect his multi-channel robotic control systems from outside interference and he went no further than that. Whilst he did not envision the electronic computer as such (computers run on pulsed d/c not a/c) his early patents are still often met by modern designers.

Tesla paved the way in radio communications (it was said by Tesla that Marconi was using seventeen of his patents when demonstrating the first crude radio transmissions) Tesla also experimented with robotics, radio control, cryogenics and super-conductivity, beamed energy through the ionosphere and ideas to provide free electricity to the world, so called 'earthquake' machines and a myriad of other inventions and ideas that poured from his inventive and fertile mind. Unfortunately, some of these inventions and discoveries related to the invention of powerful weapons which, would now be described as WMD. It is no surprise therefore that the FBI and the Air Technical Service Command at Wright Field, Ohio took a great deal of interest in Tesla's papers following his death.

Thomas Townsend Brown

T.T Brown was a physicist who, whilst he was employed by the US Navy during 1930 -1955 discovered an effect which was later called the 'Biefeld-Brown' effect.

In 1923 Professor Paul Alfred Biefeld of Denison University USA collaborated with T.T Brown and their experiments led to the discovery of high-energy electrostatic levitation. The principle involves the use of high-density dielectric substance (a material that offers relatively high resistance to the passage of an electric current but through which magnetic or electrostatic lines of force may pass. Almost all insulating substances e.g., air, mica, or glass is classed as a dielectric. A perfect vacuum would constitute a perfect dielectric).

By the time T.T Brown founded NICAP in 1956 it seemed that the US Government had concluded his work was highly classified. Before his involvement with NICAP he had published much of the findings of his work and a number of what was called working 'gravitators' were built and demonstrated which included flying disks.

A total of 75 patents were applied for in 12 major countries, but it is suspected that his work was either shelved or taken over by NASA whom it is known have carried out many experiments using hot chamber acoustic and electrostatic levitation techniques in research projects which involve applications for fusion-target separation, biological separation and manufacturing processes in liquid/gas media which is now in the public domain.

Ion Drive Engine

Ions are atoms that have had electrons knocked off them and are left with a positive electric charge (a mixture of ions and electrons is called a plasma). In the Ion Engine, vectored ions are used to project thrust. Unfortunately whilst the 'exhaust velocity' of the ions are at the speed of light, the actual thrust moment is measurably very small and is only practicable for journeys that start in deep space avoiding gravitational forces.

This method of propulsion is ideally suited to long space trips where light velocity thrust can be kept up for as long as required. Theoretically, it would be possible to attain near light speed velocities over very long periods with great economy possibly using chemical rocket engines for braking and navigational correction.

Unfortunately, on the 18th December 2001 NASA switched off the communications link to their 'Deep Space 1' probe after almost three years of groundbreaking technological achievements that proved it was possible to operate advanced semi-autonomous control systems at arm's length. The ion drive engine of Deep Space 1 had successfully operated for almost two years continuously and had proven to be a reliable power plant for the small craft.

Ionizing Radiation & Nomenclature

It is currently accepted that the 'sievert' (named after R.M Sievert a Swedish scientist) has replaced the 'rem' in order to assess the danger and the effects of ionising radiation on living tissues. The following table illustrates the simple relationship of 'sievert' to the old 'rem' (**r**öntgen **e**quivalent **m**an or mammal).

1 sievert (Sv) = 100 rem (rem)

1 millisievert (mSv) = 100 millirem (mrem)

1 microsievert (halfSv) = 100 microrem (halfrem)

1 nanosievert (nSv) = 100 nanorem (nrem)

The 'gray' (Gy) has now replaced the 'rad' (Rad) therefore:

1 gray (Gy) = 100 rad (rad)

1 milligray (mGy) = 100 millirad (mrad)

1 microgray (halfgray) = 100 microrad (halfrad)

1 nanogray (nGy) = 100 nanorad (nrad)

The above nomenclature will probably not mean much to the uninitiated but the following may give the reader an insight into the risks of exposure to ionising radiation. It should also be noted that exposure is a cumulative process i.e. repeated exposure over a commensurately short period of time will cause the subject to absorb high and possibly, dangerous levels of radiation especially if the subject is close to the radiological object. Therefore, those people who may have to come into contact with ionising radiation because of their occupation or profession will have strict limitations on their total exposure over a set timescale, perhaps even as short as one day. However, it is

the author's opinion that no ionising radiation is safe due to the way our bodies metabolise radiological events.

Comparative examples of the effects of exposure to ionising radiation:

Fractional single dose radiation levels:

10μrems – 0.1μSv – background radiation

100μrems - 1μSv – low level radiation

1mrems - 10μSv – daily human limit

10mrems - 100μSv – move away from source immediately

100μrems – 1mSv – dangerously high exposure

Exposure to whole and single dose radiation levels:

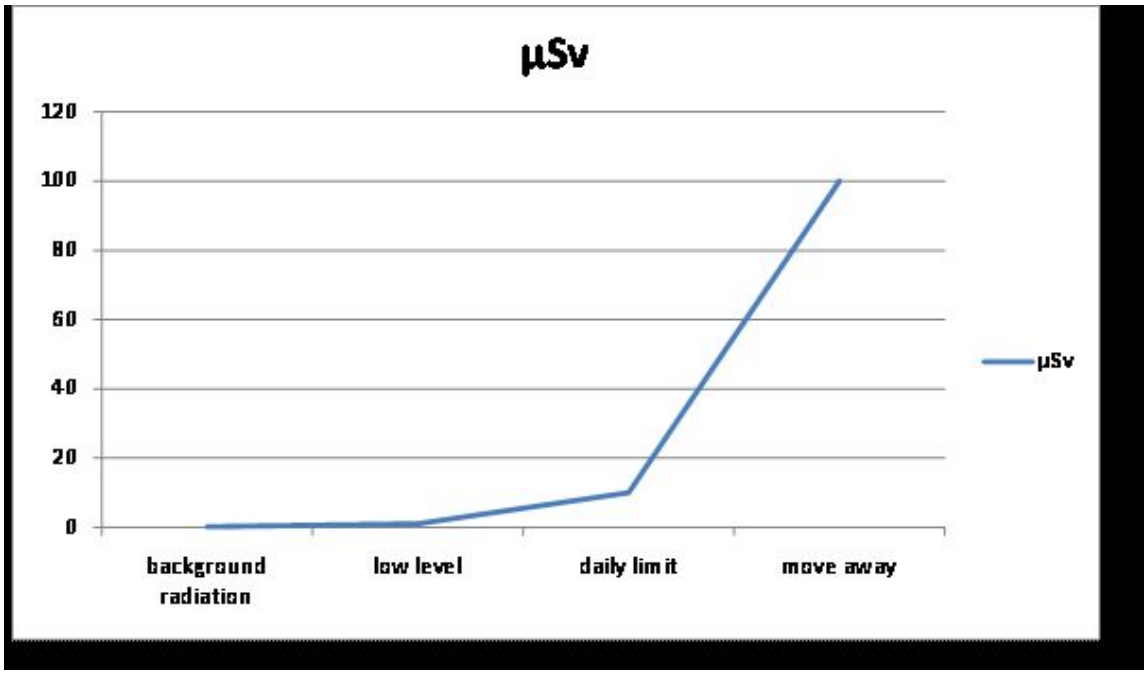
1rem – 10mSv – very high exposure

10rems – 100mSv – extreme danger

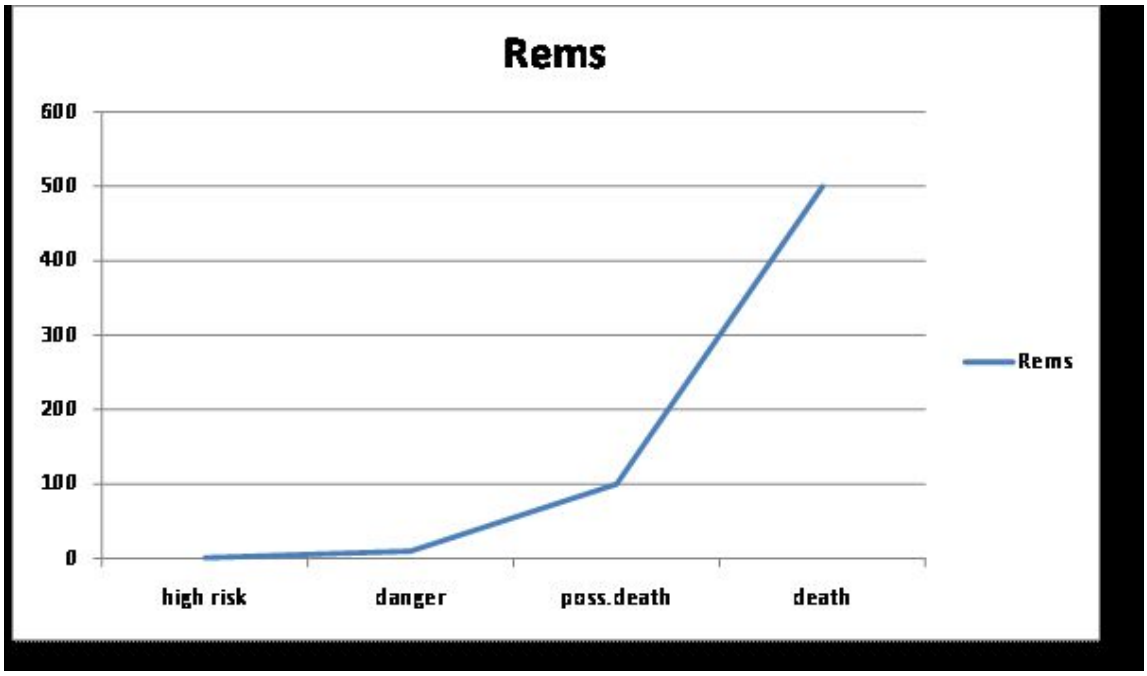
100rems – 1Sv –probably lethal

500rems – 5Sv – death within a short period

Whilst the effects of ionising radiation on the body can vary to some degree from person to person, whole body doses of fractional exposures over a relatively short timescale when exposure to an ionising product with a *long half-life* has occurred may have an adverse effect on overall life-expectancy due to the cumulative effect of exposure. However, the human body can withstand moderate exposures of *short half life* radiological products with no ill effects.



These graphs illustrate the relationship of Sieverts to Rems. The µ (micro) Sievert scale is more useful in practical terms because it can be used to more fully understand the biological damage that can be caused by exposure to dangerous ionising radiation in the real world.

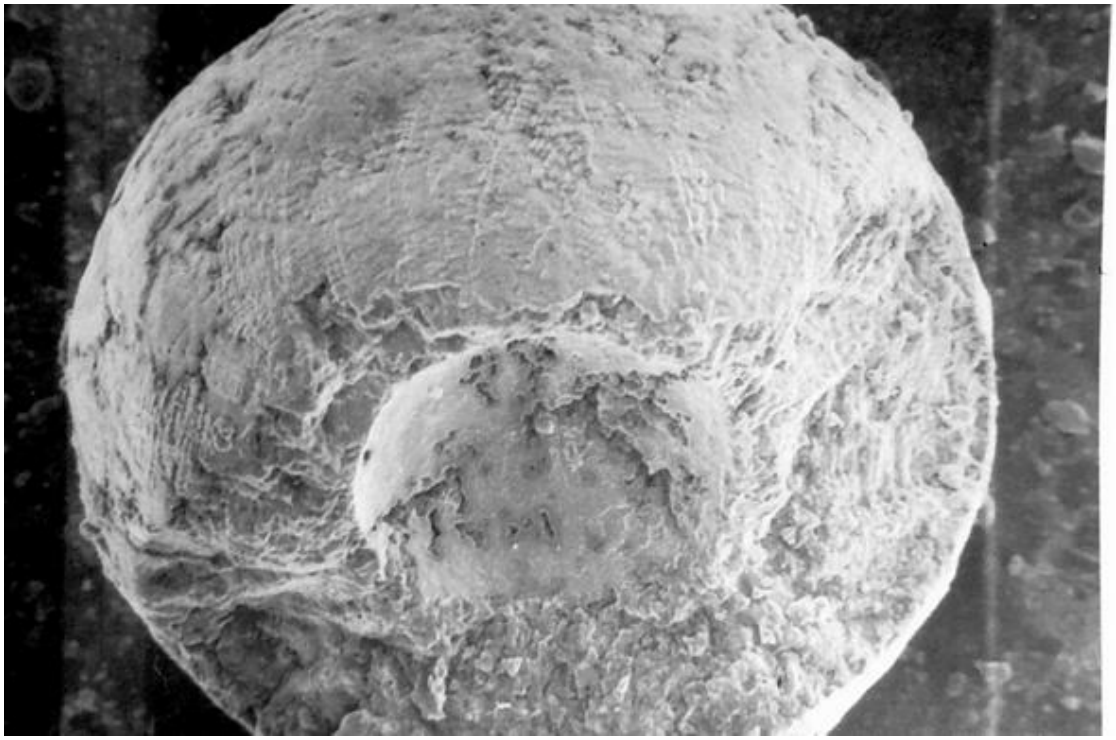


These graphs are for illustrative purposes only.

Photo, Drawings & Documents Section:

The far side of the Moon taken by the astronauts of Appollo 11:

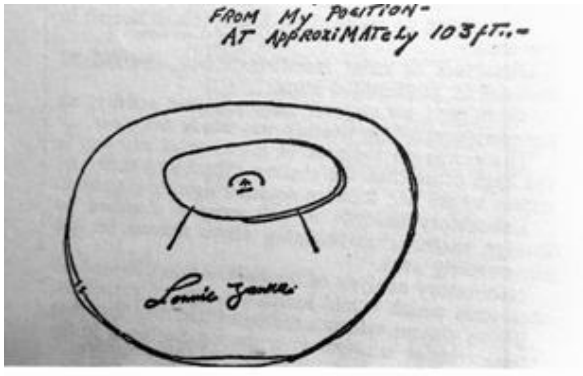
The far side of the Moon has many more craters and less Marias than the side that we see from Earth as though it has suffered a massive meteoric storm asymmetrically at some distant time in the past. The far side of the Moon also has a distinctive bulge.

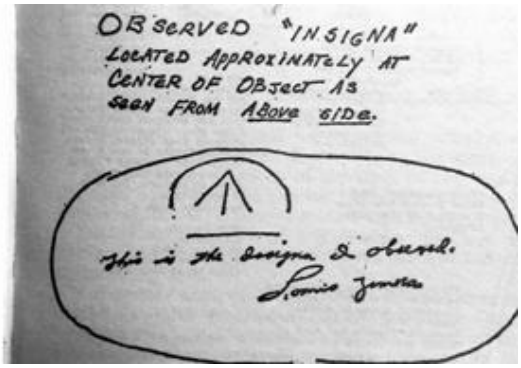


This tiny micrometeorite may only be around 20 micrometres in diameter that is a 50th of a millimetre! Thousands of tons of this type of debris float down through our atmosphere every year from space. It is thought that these extremely small objects originate from comets.

This is the original pod mark made by the vehicle that Lonnie Zamora saw land in the desert. Stones were placed around the impression to preserve it before this photo was taken. It appears that the shape of the actual pod footprint has been preserved by building up a mound of earth around the depression.

Acknowledgement: ©Project Blue Book





Lonnie Zamora's original sketch of what he perceived the object looked like with its landing legs extended. Note the strange markings on the side of the object... does anyone recognise these marks?

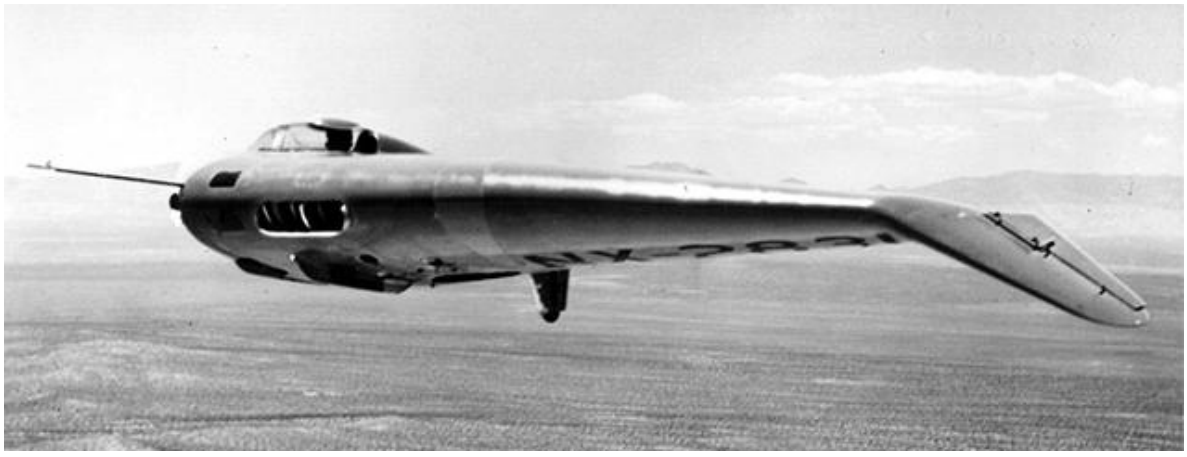
Acknowledgement: ©Project Blue Book

NASA's Venture Star: A replacement for the old shuttle design? Later to be superseded by the Orion CEV. A re-usable orbital vehicle and planetary mission manned probe but unfortunately now cancelled due to budgetary and political constraints.

NASA's Venture Star - an artist's impression – © NASA (Acknowledgment)

Just a few unconventional aircraft...Could these have be seen as UFOs by an unsuspecting public?

A Northrop YB49 Flying Wing: One of many revolutionary flying wing aircraft from Northrop.



A Northrop N1M Flying Wing: These flying wings designs were being flown long before pilots had the benefits of computer flight control systems!

Above: A British Armstrong Whitworth AW52 Flying Wing:

This aircraft first flew on 13th November 1947.

An unmanned vehicle – US Navy - Jet powered UAV

Federal Register: October 4, 2001 (Volume 66, Number 193)
Presidential Documents
Page 50805-50807

Presidential Determination No. 2001-27 of September 18, 2001

Classified Information Concerning the Air Force's Operating Location Near Groom Lake, Nevada

Memorandum for the Administrator of the Environmental Protection Agency [and] the Secretary of the Air Force

I find that it is in the paramount interest of the United States to exempt the United States Air Force's operating location near Groom Lake, Nevada, the subject of litigation in Kasza v. Browner (D. Nev. CV-S-94-795-PMP) and Frost v. Perry (D. Nev. CV-S-94-714-PMP), from any applicable requirement for the disclosure to unauthorized persons of classified information concerning that operating location. Therefore, pursuant to 42 U.S.C. 6961(a), I hereby exempt the Air Force's operating location near Groom Lake, Nevada, from any Federal, State, interstate, or local provision respecting control and abatement of solid waste or hazardous waste disposal that would require the disclosure of classified information concerning the operating location to any unauthorized person. This exemption shall be effective for the full one-year statutory period.

Nothing herein is intended to: (a) imply that in the absence of such a Presidential exemption, the Resource Conservation and Recovery Act (RCRA) or any other provision of law permits or requires disclosure of classified information to unauthorized persons; or (b) limit the applicability or enforcement of any requirement of law applicable to the Air Force's operating location near Groom Lake, Nevada, except those provisions, if any, that would require the disclosure of classified information.

The Secretary of the Air Force is authorized and directed to publish this determination in the Federal Register.

[signed:] George W. Bush

THE WHITE HOUSE,

Washington, September 18, 2001.

A Presidential document confirming the existence of Groom Lake, Nevada: Note the date of 18th September 2001.

From: Linda Unwin
Directorate of Air Staff (Lower Airspace)
Operations & Policy 1
MINISTRY OF DEFENCE
Room 6/73, Metropole Building, Northumberland Avenue, London, WC2N 5BP

Telephone (Direct dial) 020 7218 2140
(Switchboard) 020 7218 9000
(Fax) 020 7218 2680
(GTN)

Your Reference

Our Reference
D/DAS/64/3
Date
12 September 2002

Dear Mr Robinson

I am writing with reference to your letter of 6 September addressed to my colleague, Mr Argyle, concerning 'unidentified flying objects'. Your letter has been passed to me because this section is the focal point for correspondence relating to 'unidentified flying objects.'

It may help if I clarify the MOD's position regarding UFOs. The MOD does not have any expertise or role in respect of 'UFO/flying saucer' matters or to the question of the existence or otherwise of extraterrestrial lifeforms, about which it remains totally open-minded. All reports of 'UFOs' received by the MOD are examined solely to establish whether what was seen might have some defence significance; namely, whether there is any evidence that the United Kingdom's airspace might have been compromised by hostile or unauthorised air activity. Unless there is evidence of a potential threat to the United Kingdom from an external military source, and to date no 'UFO' report has revealed such evidence, we do not attempt to identify the precise nature of each reported sighting. We believe it is possible that rational explanations, such as aircraft lights or natural phenomena, could be found for them, but it is not the function of the MOD to provide this kind of aerial identification service. We could not justify expenditure of public funds on investigations which go beyond our specific defence remit.

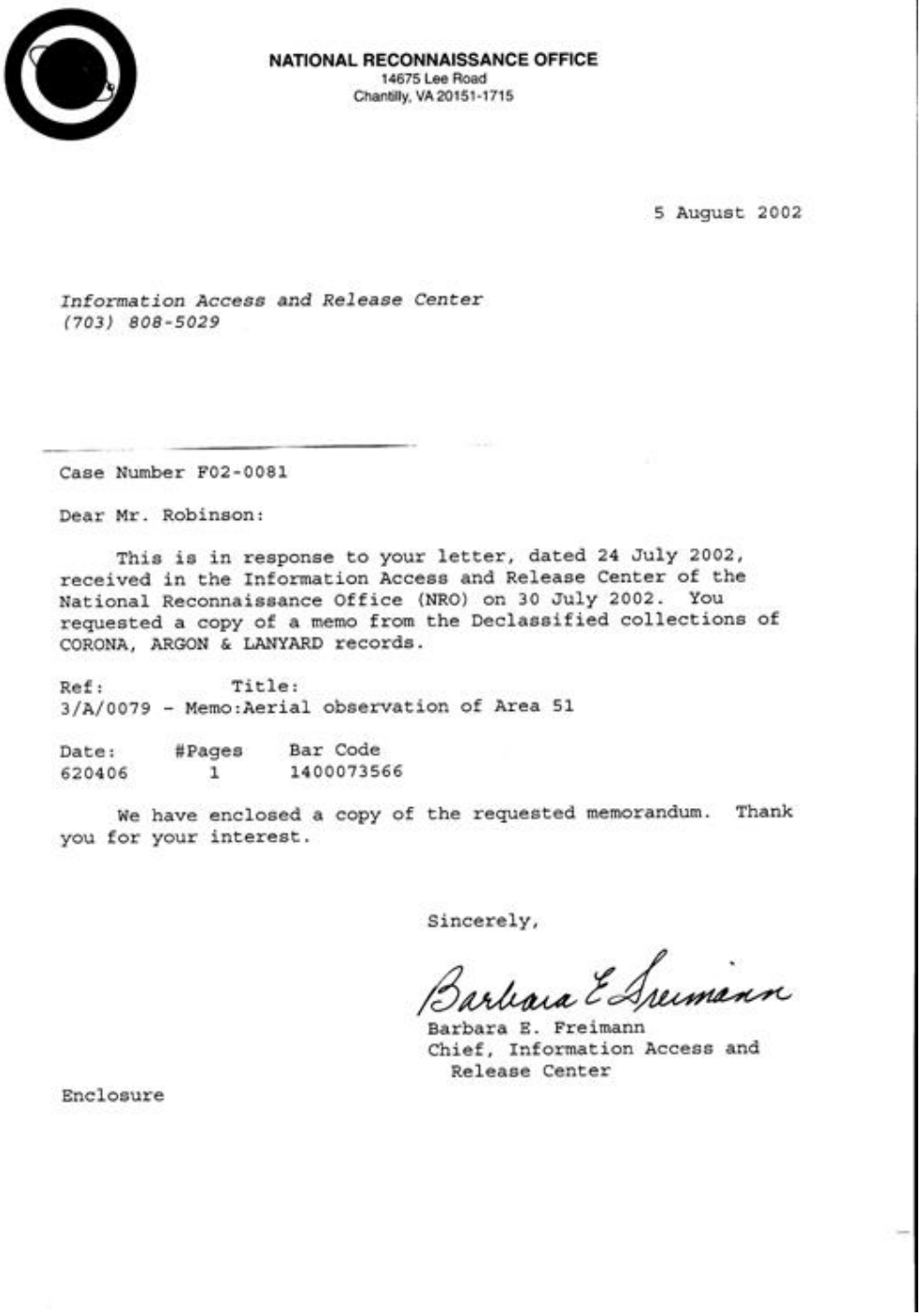
You may also wish to be aware that the integrity of the UK's airspace in peacetime is maintained through continuous surveillance of the UK Air Policing Area by the Royal Air Force. This is achieved by using a combination of civil and military radar installations, which provide a continuous real-time "picture" of the UK airspace. Any threat to the UK Air Policing Area would be handled in the light of the particular circumstances at the time and might if deemed appropriate, involve the scrambling or diversion of air defence aircraft.

I hope this explains our position.

Yours sincerely,

L C Unwin

UK MOD's refusal to accept the UFO 'problem' in 2002:



NATIONAL RECONNAISSANCE OFFICE
14675 Lee Road
Chantilly, VA 20151-1715

5 August 2002

Information Access and Release Center
(703) 808-5029

Case Number F02-0081

Dear Mr. Robinson:

This is in response to your letter, dated 24 July 2002, received in the Information Access and Release Center of the National Reconnaissance Office (NRO) on 30 July 2002. You requested a copy of a memo from the Declassified collections of CORONA, ARGON & LANYARD records.

Ref:	Title:
3/A/0079 -	Memo:Aerial observation of Area 51

Date:	#Pages	Bar Code
620406	1	1400073566

We have enclosed a copy of the requested memorandum. Thank you for your interest.

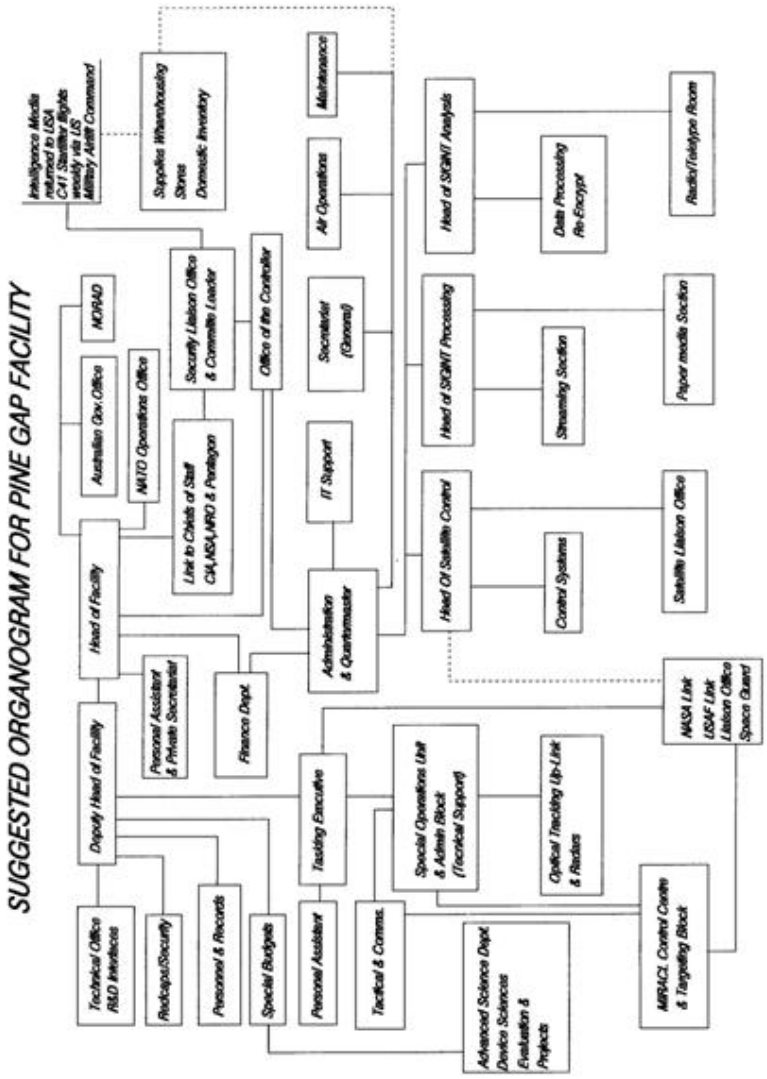
Sincerely,

Barbara E Freimann

Barbara E. Freimann
Chief, Information Access and
Release Center

Enclosure

NRO acceptance of Area 51 being in the public domain in 2002 despite constant denials even of its existence by official US sources.



A suggested organagram or organizational chart of the top secret site of Pine Gap in Australia (author).

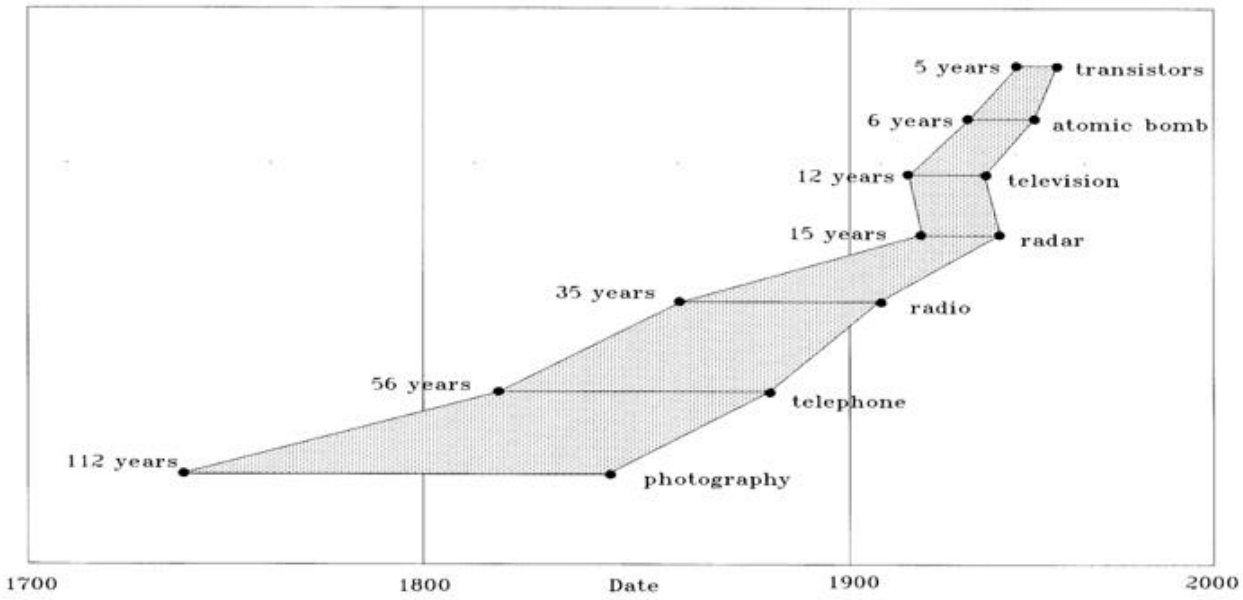


Fig.1 Chart which illustrates time taken to create an invention and the development of a commercial product

Invent and develop graph according to Prof. Hafstadt

APPENDIX ONE

The Rendlesham Forest Incident is said to have occurred at some date between the nights of 27th and 30th December 1980 (generally accepted as the 29th). Rendlesham Forest was near the RAF/USAF Air Base at Bentwaters/Woodbridge in Suffolk, and something was said to have 'come down' and caused havoc because it had breached sensitive air space around the base. Allegations that the air base housed nuclear weapons at the time (which contravened UK/US Treaty obligations) was hotly denied in a written exchange between Lord Hill-Norton, retired Defence Staff Chief and Defence minister of the time Lord Gilbert - recorded in Hansard (written answers) 28th October 1997.

Lord Hill-Norton claimed that USAF personnel witnessed an event where an unidentified object hovered over the base and appeared to 'fire' light beams at nuclear missiles. It was claimed that the UK MOD was deliberately suppressing the report of the event - filed by USAF personnel. However, Lord Gilbert continued refused to confirm or deny that the base even possessed nuclear weapons and maintained his posture declaring: *Quote: 'There is no evidence to suggest that the Ministry of Defence received any such reports,' End quote.*

Lord Hill-Norton continued to press Lord Gilbert by asking about the suicide of a US security policeman from the 81st Security Police Squadron who took his life at Bentwaters in 1981. He also questioned the Government with regard to the known incidence of USAF personnel suffering mental health problems following their experience in the Rendlesham Forest affair. Lord Gilbert evaded answering the questions by stating that such matters would be dealt with by the relevant US authorities and they were not matters for HM Government.

However, Lord Gilbert could not deny that a serious incident did occur within the timeframe mentioned. Serious enough for RAF radars took detect an unidentified object near the base and for phantom jets to be scrambled with pilots reporting intense bright lights in the sky (The People newspaper 2nd November 1997).

The strong suggestion of a serious attempt to cover-up was compounded by a document released by the US Government under the US FOIA Act (Freedom

of Information) that was sent by the Deputy Base Commander, Charles I Halt Lt Col, and USAF to RAF/CC. This document was obtained from the British MOD by the US authorities but the MOD has stated on record they deny its existence.

The Memo (sic):

Subject: Unexplained Lights To: RAF/CC

1. Early in the morning of 27 Dec 80 (approximately 0300L), two USAF security police patrolmen saw unusual lights outside the back gate at RAF Woodbridge. Thinking an aircraft might have crashed or forced down, they called for permission to go outside the gate to investigate. The on-duty flight chief responded and allowed three patrolmen to proceed on foot. The individuals reported seeing a strange glowing object in the forest. The object was described as being metallic in appearance and triangular in shape, approximately 2 or 3 meters across the base and approximately two meters high. It illuminated the entire forest with a white light. The object itself had a pulsing red light on top and a bank(s) of blue lights underneath. The object was hovering or on legs. As the patrolmen approached the object, it manoeuvred through the trees and disappeared. At this time the animals on a nearby farm went into frenzy. The object was briefly sighted approximately an hour later near the back gate.

2. The next day, three depressions 1 1/2" deep and 7" in diameter were found where the object had been sighted on the ground. The following night (29 Dec 80) the area was checked for radiation. Beta/gamma readings of 0.1 milliroentgens were recorded with peak readings in the three depressions and near the centre of the triangle formed by the depressions. A nearby tree had moderate (.05-.07) readings on the side of the tree towards the depressions.

3. Later in the night a red sun-like light was seen through the trees. It moved about and pulsed. At one point it appeared to throw off glowing particles and then broke into five separate white objects and then disappeared. Immediately thereafter, three star-like objects were noticed in the sky, two objects to the north and one to the south, all of which were about 100 off the horizon. The objects moved rapidly in sharp angular movements and displayed red, green and blue lights. The objects to the north appeared to be elliptical through an 8-12 power lens. They then turned to full circles. The objects to the north remained in the sky for an hour more. The object to the south was visible

for two or three hours and beamed down a stream of light from time to time. Numerous individuals, including the undersigned, witnessed the activities in paragraphs 2 and 3.

(Signed) Charles I Halt. Lt Col USAF Deputy Base Commander

Chinook (Boeing CH-47)

The C47 is a twin-rotored heavy helicopter and according to official sources is used for:

a) Transportation of troops

b) Artillery supplies and equipment to battlefields

c) Medical evacuation

d) Aircraft recovery

e) Parachute drops

f) Search & Rescue missions

g) Disaster relief and humanitarian missions

h) Fire fighting

i) Heavy construction etc…

The CH-47 can lift around 12,000kg on its main hook and can lift a further 7,500kg on each of the other hooks. It can also carry up to 50 fully equipped troops (depending on their burden).

Stealth Airborne Technologies - Main source Jane's military Aircraft.

The development of the US stealth programme was subject to the most stringent security but at the same time some decisions made during development were the stuff of farce. During 1987 the magazine Aviation Week alleged that the US Department of Defense had instructed contractors to falsify records in order to conceal the fact that contractors were involved in so called 'black' programmes. The same week, the USAF was alleged to have filed false flight plans with civilian agencies when stealth aircraft were being flight-tested.

Also, in 1987 the US Congress discovered that one US service was going to undertake a major 'black' project and was totally unaware that a similar 'black' project had already been undertaken by another US service for some time. Things were very confusing as there were around 200 'black' projects running concurrently during that period. Work on the Lockheed Martin Stealth fighter F117A had commenced during 1987 and General Electric were approached and asked to develop a non-after burn engine. The Defence budget was said to have included about US$1,000 million in 'black' funding.

The initial funding for the development of the Northrop B2 bomber amounted to US$7,300 million and work started at an old Ford Motor Assembly plant in Pico Rivera, California. It was hailed as probably the largest secret defence industrial site in the whole of the US. During 1985 a Pentagon USAF budget document accidentally named 'Aurora' - another 'black' project this time worth US$2,300 million. It was not until early 1988 that the New York Times newspaper mentioned that the USAF was looking for a service replacement for the Lockheed Martin SR71. Its replacement (Aurora?) would be a long-range high-speed (Mach 5 - 3,800 mph) high flying (100,000 feet) aircraft incorporating radar absorbing/deflecting materials. Both Russia and America use airborne radar defeating technologies but whilst the USAF Aeronautical Systems Division Commander is quoted as saying that he believes the US is at least a decade or so in front of the competition, there are at least two other players in this arena – Japan and recently China.

Japan's Mitsubishi Corp. wanted to replace their F1 fighter/bomber scheduled for replacement during middle 1980s. The Japanese Self Defence Agency (SDA) had already admitted during 1982 that it was developing stealth technology. The US became involved and after much negotiation, a version of the McDonnell Douglas F16 was eventually settled for by the Japanese SDA which was subsequently rubber stamped by Japan's National Security Council in late 1987.

This was followed by an agreement between Japan and the US in 1988 that would effectively give Japan access to technologically advanced material. In return, Japan would refine these technologies where appropriate and make them available to the US free of any charge. However, technologies developed exclusively by the Japanese would have to be paid for by the US. In the meantime, China continues development on their stealth systems whilst Europe seems disinterested and pre-occupied with other matters.

Existing generations of stealth technologies are designed to dramatically attenuate radar returns not eliminate them, but non-stealth technologies being developed include an adaptive wing project (Mission Adaptive Wing) being tested by Boeing Aircraft Corporation on an F111 test bed as part of the USAF's AFTI (**A**dvanced **F**ighter **T**echnology **I**ntegration programme) that remains top secret along with other Boeing Phantom Works projects subsequent to their acquisition of McDonnell Douglas in 1997 that includes a recently 'total stealth'* *(author: It is somewhat unfortunate for 'total stealth' that modern high speed computers in conjunction with latest generation radars can quite easily track 'holes' in radar coverage, signifying a stealth presence, triangulate on their stealth target and destroy it)* subsonic, lightweight, low cost single seat or UAV new generation design which, is rather imaginatively called, 'Bird of Prey' presumably named after the fictional Star Trek Klingon battle cruiser of the same name.

*Total stealth being the attribute of being largely invisible to radars, infra-red sensors and visual detection by the use of active down facing LED arrays that can mimic sky conditions above the vehicle. This may be the next generation of stealth technologies that will be employed for all perceived military adaptations, including infantry.

The Pentagon report on the Roswell incident: ' Roswell: Case Closed' published 24th June 1997.

The Pentagon claimed in their report that what crashed at Roswell was a high altitude weather balloon *(Project Mogul was a high altitude balloon system designed to detect Soviet nuclear tests but it did not get a mention in the report)*. The Pentagon claimed that references to alien bodies related to experiments involving top-secret simulated parachute drops by life size dummies. That claim fell far short of explaining away anecdotal and witness reports at the time regarding the obviously non-human cadavers, their subsequent autopsy and more importantly, the remaining live alien. It is clear that these witnesses did not think they were dealing with what amounted to crash test dummies. The Pentagon report therefore raises more questions than answers. (See The Roswell incident and Northrop Aircraft Corp. later in this appendix).

Myriad books and articles have been written (and continue to be written) about the so-called 'Roswell Incident'. Unfortunately, much of what actually transpired in the New Mexico desert may never be uncovered despite the best

efforts of many dedicated researchers and seekers of the truth. Most, if not all of the first account witnesses who would have been able to provide worthwhile comment are now dead, and researchers have to rely on second generation accounts given by the children of the prime witnesses or hearsay reports by people who had little or no connection with what now amounts to a rat's maze of possible disinformation, misinformation, mistakes and downright lies.

It is not possible to go into the subject of the 'Roswell Incident' in this volume as there are a number of still obtainable dedicated books on the subject which all try to solve the puzzle. Most researchers attempt to seek out new 'deep throat' sources that purport to know 'something' about the subject. Through these people, researchers hope to link existing material in such a way as to substantiate statements already on record 'proving' that known facts are probably accurate and true. Unfortunately, such investigative procedures are sophistic in nature with such a weak chain of reasoning being only as good as the flimsiest link.

Clearly, *something* did fall to earth in the New Mexico desert near Roswell. That object was spread over a large debris field, but was apparently not totally destroyed (a radiosonde balloon may have been 'planted' later as a cover story but could not have provided such a mass of retrieved material, some of which was said to be 'exotic'). It could not have been a bolide (a large bursting meteor) or the ridiculous contention by the USAF in their 1997 Report, 'The Roswell Report: Case Closed' that the story concerning the retrieval of alien bodies from the 'crash site' were actually crash test dummies secured to their test racks which had been accidentally dropped from high altitude balloons over New Mexico! The USAF claimed that it was these dummies and the smashed up test racks which caused the crashed 'saucer' flap. Unfortunately for the USAF, they had forgotten that such tests using crash test dummies only started in 1954. The 'Roswell crash' happened in early July 1947.

The claim that ‘reversed engineering’ of downed alien craft produced much of the new technologies emerging soon after the end of WW2 is not a credible assessment of the technology of the period. What industry was short of was money and raw materials. It was not short of ideas. In that respect, what fell to earth may have had more to do with our own emerging sciences and technology applicators, rather than a crashed craft from another world which was said to have no perceived power plant on board by first hand witnesses. Does that suggest a glide descent from a high altitude B-29 bomber to you?

Abstract of 'The Space Act of 29th July 1958 - Section 102(c)(a)' forming NASA.

NASA is charged with the making available to agencies directly concerned with national defense of discoveries that have military value or significance.....

Information obtained or developed by the Administrator in the performance of his functions under this Act shall be made available for public inspection except:

a) Information authorised or required by Federal statute to be withheld, and

b) Information classified to protect the national security.

The Human Brain

Around 10 billion neurons (10,000,000,000,000) exist in the brain. Each neuron has, on average, around 1,000 links with other neurons and that results in about 60,000 miles (96,540 kilometres) of 'wiring'. Whilst computers are obviously much faster than the human brain (around a million times faster) the brain's enormous linking connectivity and simultaneous processing of information allows biology to beat technology. Even though the fastest computer clocks up about a billion or so operations (1,000,000,000) every second an ordinary fly stuck to a window pane clocks up about 100 billion (100,000,000,000) operations every second!

During the course of a lifetime it has been calculated by the Hungarian physicist and mathematician, John von Neumann, the human brain can store up to 2.8 times 10^{20} bits of information. Equal to (280,000,000,000,000,000,000 bits) a stupendous figure! Scientists have no current model to explain how that can occur using our current understanding of the brain. However, a conventional explanation of how that could be achieved involves the user of laser technology. If two laser strike a piece of photographic film at different angles it becomes possible to record large numbers of different images on the same piece of film.

To decode the image it is only necessary to illuminate the film with a laser beam set up to the same angles as the original beams. Remarkably, it has been

found this process can store up to the equivalent of fifty bibles on one piece of film measuring just one inch square! If our memory functions in this way, memory recall may be analogous to the above process. Equally, failure in memory recall may also be explained by an inability for the in-built system to correctly interpret what the stored interference patterns mean.

However, when machines become truly intelligent with the expected advent of the artificial brain [4] in 2035 we may not be able to distinguish between a learning hybrid bio-polymer cyborg that thinks digitally and possible comprehends our analogue thoughts and bodies as inferior to itself, which of course in many ways, we shall be. Whilst the brain is an extremely complex arrangement of neurons and operates usually with miraculous efficiency for us over a lifetime, it is subject to disease and damage. Even a normally rational and healthy brain can be subject to episodes of irrationality and confusion without suffering terminal decline. Even a severely damaged brain can have moments of lucidity but some disorders may require prolonged therapeutic treatment. Some of the better known disorders of the brain are listed below:

Psychotic disorders

Major more common forms of mental disorders are listed below but many psychoses are known to come from drug abuse and there is strong evidence to support that many classical disorders like schizophrenia are caused by chemical imbalances in brain chemistry. It has been postulated that large numbers of the young adult population occasionally suffer from mild schizophrenia, which unfortunately, goes undetected and untreated. The condition will stay with the subject for life.

Schizophrenia

Classic schizophrenia is often difficult to diagnose by practitioners and symptoms vary for each patient. Typical symptoms include and are characterized by a lack of will by the patient to act even when subjected to stimulus - disconnected conversation trait with an unmoved emotional response - hearing voices in the head – Controlling thoughts paranoia - hallucinations and sometimes rigidity in the body, unwillingness to move physical position. It is rare to see schizophrenia in children or old people. Schizophrenia currently cannot be cured, only managed by drug and other therapies. It can be initiated by the misuse or abuse of drugs, which can result in changes of brain chemistry that may be irreversible.

Clinical depression (Manic depression now known as Bi-polar disorder)

Symptoms include insomnia, no appetite. Other symptoms include confusion, lethargy, and an unwillingness to make any decisions. The mental condition of the subject will interfere with work, sexual relations, self-esteem and in some cases, self hate which can lead to suicide.

Manic Syndrome

Subject may experience delusional episodes believing they have a special relationship with God. Subjects often feel they have been spoken to by God and have been told to complete a certain mission. Manic syndrome sufferers are likely to be drug or alcohol abusers, which may lead to a fatal overdose.

Delusional disorder

Paranoia is a classic symptom of this disorder where the subject feels there is/are grand conspiracies at work to do them harm. Often this disorder will include unnatural exaggerations i.e., jealousy as well as other behavioural problems.

Dissociative disorder So-called 'multiple personality' disorder - this disorder does not damage the brain and has a commonality with amnesia and trance states that are not artificially induced. Memory impairment features a great deal in this condition but it is apparently unknown whether any underlying physical cause for memory loss is to blame where there are no obvious physical reasons.

Obsessive compulsive disorder

Identified by psychiatrists as an anxiety disorder and a serious mental illness, this disorder can cause the subject to have severe compulsive behaviour that can often result in violence. Obsessive doubts about past events which cannot be accessed any longer are common features together with the more known compulsive act of cleanliness i.e., continual washing of hands or the checking of locks or any other action which results in doing something repeatedly. Research shows that this behaviour can be treated therapeutically with the appropriate drugs. There are, of course many other psychological

conditions that fall outside the ones mentioned, including disorders, which are thought of as phobias or transitory aberrations.

Some UFO witnesses (more commonly some susceptible alien abductees) may suffer from mental illness. Whether these mental aberrations stems from the wholly unnatural interaction with aliens, or whether it pre-existed prior to their experience must be left to qualified medical practitioners and the medical profession. Unfortunately, victims may not come forward for risk of exposing themselves to ridicule thereby receiving little or no support for their condition and thereby increasing their sense of isolation and rejection.

Members of the Local Group of Galaxies

The Milky Way is surrounded by many other galaxies and is called the Local Group. Over 27 objects have been identified which make up this group with the possibility of at least 10 more yet to be classified or identified. The Local Group covers an area of about 3,000,000 light years in diameter. *(Author: a light year is the distance light travels in a vacuum in one year, at an average speed of 186,291 miles per second or 299,792 kilometres per second that equates to approximately 5.88 trillion miles or 9.4607 trillion kilometres, or 63,246 AUs - Astronomical Units. An Astronomical Unit is usually expressed as 93,000,000 miles - the mean distance from the Earth to the Sun).*

The two largest galaxies in the group are our own, Milky Way and Andromeda. Our galaxy is surrounded by at least 13 others and the Andromeda galaxy is surrounded by about a further 9 other galaxies. There are at least 5 other galaxies outside both these groups. It is estimated that the total mass of the Local Group is around 700,000,000,000 solar masses (Sun's mass 2.2 x 10^{27} tons or 2 x 10^{30} kilograms). It is thought that eventually, the Andromeda Galaxy and our Milky Way will collide – don't worry though! It will not happen for a few billion years!

Astronomers do not know why the Local Group has formed in the way it has but it is thought that the gravitational attraction of the larger galaxies played a part in bringing together the group or that all the galaxies were formed at the same time and have travelled together ever since their formation.

The Kelvin Temperature scale (Named after British scientist William Thompson, later Lord Kelvin, first baron of Largs 1824-1907).

A Kelvin degree is equivalent to a Celsius degree but the scale is adjusted so that zero actually represents absolute zero (around minus 459.67° Fahrenheit or minus 273.16° C), which is the temperature at which all molecular activity stops. On that scale, water freezes at approximately 273° K and boils at approximately 373° K. Lord Kelvin was also famous for developing the idea of entropy and an idea that led to syntony (a receiver tuned to the wavelength of a transmitter to receive a signal).

Quantum Theory - a brief overview

Wilhelm Wein, a 19th century scientist observed that as temperature of a body rises the wavelength of radiation becomes shorter. His 'Displacement Law' made it possible to measure the temperature of the Sun. However, his observations did not explain how radiated energy is distributed over the different wavelengths of the radiation.

In seeking an answer to this problem, Max Planck proposed that radiation was emitted or absorbed in ‘quanta’, discrete packets of energy, with each ‘quanta’ having a different magnitude in relation to the wavelength of the energy or radiation. According to Planck, for a frequency v the energy quantum is of magnitude ‘hv’, where ‘h’ is a certain constant (Planck's Constant). After a quantum of energy had been radiated no further radiation of energy could occur until an amount of energy ‘hv’ had accumulated. In other words, any transfer of energy at the frequency v only took place in multiples of ‘hv’. The value of ‘h’ was calculated to be 6.6×10^{-27} erg seconds, a very small number indeed.

Einstein was said to have made the first practical use of Planck's hypothesis by returning to Newton's idea that light could be described as particles as well as waves. He proposed that light consists of streams of quanta called ‘photons’. The amount of energy in each photon is ‘hv’ (h is Planck's Constant and ‘v’ is the frequency of light). When an electron is hit by a photon it cannot receive any more energy than the light quantum can give it. The value of ‘hv’ explains the maximum velocity of ejection. The theory therefore revolved around the fact that the velocity of ejection should vary with the frequency of light. Which it was later found to do so. When a ray of light strikes say, a metal surface, the electrons shoot off when the frequency of the light exceeds a certain minimum. They come off the metal surface (or any other material) at the same speed whether the light source is weak or strong. They are therefore unaffected

by the quantum of energy the light has. More light does not mean bigger quanta - it means more quanta.

Micrometeorites

We are conditioned to think that large meteorites continually bombard the Earth. Some which are large enough to wipe out all life on the planet, but there are many much smaller astronomical objects coming to Earth from space than these high profile meteorites.

Since the late 1970s, NASA has been collecting space dust and particles using aircraft that can fly in the stratosphere (about 60,000 feet or 18,288 metres). These tiny particles may be only 20 micrometers or so across, which is 1/50th of a millimetre. Some look as though they could have been manufactured when they are spherical in appearance. The small size of these micrometeorites allows heat to radiate away from during their descent to Earth so they retain the shape they had whilst in space. Due to their small size they do not have the same chemical composition as meteorites. It is thought that micrometeorites may originate from comets.

Hologram

A hologram occurs as a result of a laser beam being split into two separate light beams. One light beam is used to illuminate the object to be photographed; the other beam is allowed to collide with the reflected first light beam that causes an interference pattern to be produced. This interference pattern is then recorded on film. The resultant interference pattern does not look anything like the subject that has been photographed and consists of what looks like concentric rings, but when the pattern is illuminated by another laser beam the subject takes on the appearance of a 3-dimensional object which has depth. In a holographic projection, the illusion is so convincing you can walk around the illumination and view different aspects of it.

Scientific notation

Many of the very small and very large numbers used in this book use what is known as 'scientific notation' that uses a method of shorthand to describe such numbers. Positive numbers have two components, the base number or mantissa x 10 raised to a power or exponent i.e., 10 power. The exponent determines how many decimal places are attached to the number i.e., 10^5 is shorthand for

100,000. Negative numbers also have two components and work in the same way, except that the result after the multiplication determines how many decimal places to the left will be made according to the value of the exponent i.e., 10^{-3} means 0.001 etc..... For example: 1,000,000 = 10^{6} and 0.000001 = $10^{-6.}$

Half-life

Radioactive decay is measured by an expression commonly called 'half-life'. Half-life is a concept that is based on probabilities and is based upon mass. In say, a piece of radioactive material there may be 100,000,000 identical atoms which has a half-life of say, one week. The following week there will only be 50,000,000 atoms, the week after that there will only be 25,000,000 atoms, the week after that 12.500,000,000 atoms and so on. When only a few radioactive atoms remain of the original substance, the process becomes unpredictable as only small numbers of the last few atoms decay at irregular intervals until no more radioactive material remains. Each radioactive substance has its own half-life and Uranium U235 for instance has a half-life of 704,000,000 years. Radioactive elements produced in the laboratory may have half-lives of much less than a second in time.

Higgs Fields/Higgs particles

In particle physics theory, the standard four Higgs fields play an important part in creating differences in known particles that would otherwise be identical. It is the positive value of the Higgs field that determines the difference between electrons and neutrinos. The GUT (Grand Unified Theory or the 'Theory of Everything') proposes that it is the value of the Higgs fields, which is expected to determine the essential differences between fundamental particles.

Many Higgs particles have been predicted in varying quanta energies to make up the Higgs fields. Predictions include the possible existence of a neutrally charged particle and other Higgs particles of substantial charge.

Unfortunately, none of these predicted particles have yet been found*. 'W' bosons (+ or - W and Z particles of the standard model of particle physics) are thought to owe their mass to Higgs particle interaction. It is outside the scope of this book to elaborate any further on this subject but readers who are interested will find Alan Guth's book [27] very informative and readable, even to the layman.

*Recent high energy experiments at the European Laboratory for Particle Physics (aka CERN) indicates that one Higgs particle has been found that has approximately 114 times the mass of the proton (now subject to a higher value). However, don't shout "hurrah!" just yet...the LHC (Large Hadron Collider) has not yet provided incontrovertible proof of the Higgs particle...but the scientists remain hopeful.

Einstein's famous equation $E = mc^2$

Einstein's famous equation that succinctly states that matter and energy are interchangeable states of the same thing is often used in conversation without really understanding the practicalities of this beautifully simple and eloquent expression.

In the equation, 'E' represents energy, 'm' represents mass and 'c' represents the mean speed of light in a vacuum. By conventions of agreed scientific measurement, energy is expressed in ergs, (an erg is the work done by imposing an acceleration of 1cm/second^2 upon a mass of 1 gram over a distance of 1 cm) mass will be expressed in grams and light speed in centimetres per second.

By transposition: Erg = gram x cm^2 second^2

If: E = 1 gram and the mean speed of light in a vacuum is 29,979,245,800 cm a second (rounded up to 30,000,000,000 cm/sec for the purposes of the calculation)

Then: E = 1 gram x 30,000,000,000 cm^2 second^2

Which:

Equals 900,000,000,000,000,000,000-cm^2 second^2

Or:

Expressed as 1 gram c9 x 1020 cm^2 second^2

Which: Equates to E = 9 x 1020 ergs or expressed as 25 x 106 kilowatt hours i.e., 25,000,000 kilowatt-hours. This means that 1 gram of material converted into energy could light a hypothetical 100 watt electric light bulb continuously for around 285,388 years!

On-board nuclear power plants for aircraft

German scientists had conceptualised the possibility of on-board nuclear reactors for aircraft and in particular rockets, probably in the late 1930's early 1940's whilst they were perfecting the liquid fuel rockets that would ultimately be known as the V2 weapon. According to Geoffrey Brooks [28] the scientists were only too well aware that the prospect of developing a nuclear engine was largely impracticable due to weight and shielding considerations. Conventional, but still experimental flight reactors, all use enriched U235 powder embedded in a graphite moderator matrix is not only very costly today, but at that time would have been prohibitively so for use in warfare.

However, Brooks advises that there is evidence to suggest that Dr Walter Thiel (Rocket engine designer and deputy to Von Braun at German Peenemunde facility) had passed some design concepts to a colleague for comment and evaluation concerning a nuclear steam turbine drawn up by Professor Werner Heisenberg (theoretical physicist and Nobel Prize winner) and Professor Heinz Pose (physicist). The evaluation concluded that a nuclear engine would probably be required to consist of enriched U235 with a solid moderator (presumably graphite) and with methane or hydrogen as a propellant. Whilst Dr Thiel agreed with the findings, the matter apparently was not taken any further and one can only speculate why that was so.

Whilst the nuclear powered steam turbine was destined to be used in ships and submarines, it is unreasonable to think that research into airborne reactors would have stopped in November 1942 when Dr Thiel got hold of Professor Heisenberg's and Professor Pose's design studies. However, it would be the victors who would take the spoils of German research following the defeat of Germany in 1945 and not the German scientists who were only too well aware that any new or novel discoveries stood a good chance of being used in the German war effort.

It is entirely possible that the airborne vehicle involved in the Cash/Landrum incident may have been part of the ongoing experimentation in developing effective on-board airborne nuclear reactor propulsion systems that were based on early German designs. These systems would have been far too dangerous in the hands of the Nazis.

The Lockheed Martin X-33/Venture Star (copyright) Acknowledgments to, Lockheed Martin, Allied Signal, BF

Goodrich Aerospace, BoeingRocketdyne, Sverdrup and NASA.

Vital statistics:

See photo:

Length: 69.26 ft, Width: 76.76 ft, Height on gear: 25.77 ft, Gross weight: 273,000 lb. Take-off thrust: 350,000 lb. Max Speed Mach: 13+

“In order to develop more reliable and cost effective space transportation options for industry and government, NASA formed an innovative partnership with Lockheed Martin Skunk Works in July 1996 to build the world's first fully reusable, single-stage-to-orbit-vehicle. The goal of this partnership is to dramatically reduce the cost of space transportation and open the space frontier to entrepreneurship and development.

The first step in realizing this objective is to build a half scale "technology demonstrator" vehicle called X-33. Using both government and industry funds, Lockheed Martin and industry partners Boeing/Rocketdyne, BFGoodrich, Sverdrup and AlliedSignal are building the X-33 to validate critical technologies and operational concepts for a new space vehicle known as VentureStar(c). Operating at one tenth the cost, and turnaround times of days instead of months, this vehicle will provide space transportation services to a wide range of customers. By operating with aircraft-like efficiency and reliability, VentureStar(c) will forever change the way we think of and use space.”

(Author: Acknowledgment to Lockheed Martin who owns the copyright of this statement). Unfortunately, the X-33/X-34 programs have now been aborted due to Presidential budget cuts after a joint spend by NASA and Lockheed Martin since 1996 of around US$1.5bn. The X-33 technology demonstrator had been beset with technical problems and was scheduled to remain grounded because of these difficulties until 2003. NASA anticipated that a Space Shuttle replacement would come from the ‘Space launch Initiative’ a US$4.5bn programme that was envisioned to mature in 2005. That programme culminated in the ‘Orion’ programme – a new re-usable CEV (Crew Exploration Vehicle) that was intended for not only for low Earth orbital missions, but Lunar and possibly even Martian missions over the next decade or so. Unfortunately, the shuttle programme has now been retired and only the Russians currently have the rocket boosters capable of carrying astronauts to the orbiting International Space Station.

The Roswell Incident & Northrop Aircraft Corporation

It should be remembered that unconventional aero-forms have been around for a long time. Drawings of flying wing designs (or what could be conceived of as 'planes without fuselages') are known to have existed pre-1900 and flying wing prototypes were developed firstly in Europe during the early 1900s. As always, we sometimes have to wait for technology and industry to catch up with new ideas.

The claims that Jack Northrop (founder of the Northrop Aircraft Corporation) was advised of the pertinent details of the vehicle that crashed at Roswell in July 1947 along with Kelly Johnson of Lockheed Aircraft Corporation is interesting for a number of reasons. The main reason being that it is a matter of record that Jack Northrop had been flight-testing unconventional designs at Muroc (now Edwards AFB, home to the Space Shuttle) after the formation of a new company called 'Avion'.

Whilst the first flying design was not strictly a true flying wing design with twin boom tail fins, it did set the trend for further developments and the first true flying wing prototype, the N-1M flew over the Mojave desert in 1941 with flight testing continuing into 1942. As WW2 continued to rage the Nazis found time to continue their own research into flying wing designs one of which came from the Horton Brothers – the remarkable twin jet powered wooden bat wing.

The Northrop N-1M was mostly made of glued wooden monocoque construction (like the Horton Brothers bat wing design) and required much hand finishing and currently, the only airplane built from the prototype now resides in the Smithsonian Institute. Whilst it is not necessary to bore the reader with the genesis of the various Northrop designs through the N-1M, XB-56, MX-234, N-9M, XB-79, YB-49, XB-35, RB-49 culminating in the B-2, some early designs, namely the squat JB-1 was designed as a glider. The MX-324 would look similar in design but would be rocket powered, although early flight-testing would be limited to non-powered flight.

Many strange looking aircraft flew around the Muroc desert test area throughout the 1940s and unfortunately, some of these flying wing designs would come to grief. As WW2 drew to a close the latest big flying wing piston engine aircraft the XB-35 had not yet flown. Its initial flight in June 1946 from Hawthorne Airport would reveal many severe problems with the advanced

design and would include reliability worries and complex problems with the rear mounted contra rotating airscrew configuration. This would eventually be resolved by reverting to conventional airscrews. However, conventional airscrews downgraded the available power and it was not until the piston engines were replaced by eight jet engines culminating in the YB-49, would the power problems be solved.

In June 1948 an YB-49 was on a routine test flight over Muroc and it crashed, scattering debris over the desert floor. The cause of the crash was thought to have been structural failure although there was little evidence to attribute any specific reason. This incident effectively finished what NASA would later call, 'tailless spanloader' flight design though the last YB-49 flew until 1949.

Jack Northrop's dream of large low drag, high lift design was over and he eventually resigned from the Northrop Board in 1952 - in many ways, a broken man. However, he did live to see prototype designs of the B-2 some thirty years later and it is comforting to imagine he might have thought all his early sacrifices and trials borne by him, his colleagues and co-workers, was for something - the still revolutionary B-2 Stealth bomber. In view of the history of Jack Northrop's life's work on unconventional aircraft design, and in particular his flying wing design, together with his reputed knowledge of the Roswell vehicle, some tantalising questions emerge. The Roswell crash is said to have taken place, probably in July 1947. In June 1946 the huge airscrew driven XB-35 would fly and later, in June 1948 its successor the jet engine YB-49 would crash in the Muroc desert killing all those on board.

If Jack Northrop had been given pertinent details of the reputed alien craft at Roswell it is more than likely he would have been tempted to include some of that technology into his current projects, particularly as he was competing with Convair for a contract to supply a strategic bomber to the military. Interestingly, it was known even in those times that the flying wing design registered a low radar return even though stealth technology as such was yet to be invented.

Historical facts point to a possible conspiracy at the highest levels to keep out Northrop from securing the military contract and there is some anecdotal evidence to suggest that was the case. A previous YB-49 flight, in which fortunately the crew survived, remains an unresolved mystery when six out of its eight jet engines had failed in flight due to what was considered maintenance

problems and it was strongly suggested at the time sabotage may have been the cause of the failures although it has never been established that sabotage caused the crash..

The sabotage claim takes another twist with the unusual motorcycle death of the crewman responsible for signing off the particular maintenance schedule, who incidentally was supposed to have been on the earlier fatal YB-49 flight. Despite the co-incidences of dates between the flights of the XB-35 and YB-49 flights around the time of Roswell, we should remember that numerous flights of strange looking, but conventionally powered aircraft had taken place over Muroc for a number of years and whilst the Roswell/Corona area is not in the immediate neighbourhood, it's understandable that the skies of the vast sparsely populated desert areas of the Western US would later become host for the testing of more exotic aircraft (re: Area 51, Groom Dry Bed Lake, Tonopah Test range etc....).

The claims that the Roswell crash site gave up material which looked like 'balsa wood' yet would not burn together with thin ultra light metallic sheet material that would not dent or remain crumpled, must be taken with a measure of caution, particularly as there seems to be little evidence of any of this type of materials technology being incorporated in the YB-49. However, recent 'flexmetal' or adaptive wing technology programmes to dispense with conventional hinged airfoil surfaces may use a similar but divergent technology emanating from materials science labs, but it is still odd that no development of flying wing aircraft was undertaken between 1950 and 1979 - almost as though matters were being held back to await the B-2 Stealth bomber in the 1980s.

Some readers may consider it very unusual for the advanced YB-49 programme to be cancelled even when a fatal crash had occurred, particularly if Jack Northrop had access to what amounted to revolutionary alien technology. Some of which might have been suitable for incorporation into the development of the YB-49 programme. Historically, the strategic military reasoning behind the cancellation, when compared to conventional aircraft was said to be concerned with matters of speed and inherent design considerations which could not be circumvented i.e., the thick airfoil surfaces of the YB-49 unsuitable for high speed operation, not for any possible role as a bomber or heavy carrier per se. It seems the wing was just too advanced for its own good or excuses were being made.

If the crashed vehicle at Roswell *was* an alien vessel (really alien as opposed to human/alien - see main body of text) perhaps we did have to wait for our materials technologies to catch up so that we could reproduce some of the artefacts from the Roswell craft to expand our own aerospace knowledge. Seems like we are still waiting?

Whilst the technologies regarding the stealth aspect are claimed by some to have come directly from alien sources I also think that unlikely as the flight performance characteristics of most UFOs appear to have little requirement for any stealth features, their unusual power systems provide a better cloaking system than our current radar attenuating surfaces. UFOs exhibit flight characteristics unlike any conventional aircraft including sight invisibility under certain circumstances - perhaps also due to their propulsion method.

Whether an alien vessel crashed at Roswell or not seems to be a somewhat sterile argument, especially when one considers the passage of time since the event is said to have occurred. If there was alien technology involved it is credible to speculate it would be incorporated into our aerospace designs by now. However, a reason why that may have not happened might have depended on how advanced the alien technology was. It may have been difficult or even *impossible* to incorporate it seamlessly and convincingly into our even most advanced aerospace systems in the late 1940s without arousing suspicions. Scientists and technicians would inevitably characterize any such advanced systems as being something a lot more than 'conventional' if it was incorporated too soon. If that were the case, we would have to wait until our scientific advances largely caught up with what fell into our figurative laps or we might try to claim it was *foreign technology?*

Unless someone can come up with incontrovertible evidence that an alien vessel crashed at Roswell the jury remains out. The argument implies the solution to Roswell lies in detecting whether or not the incorporation of alien aerospace technology into our own aerospace technology has occurred - particularly within the timescales mentioned. If that can be proven, even the rumour of alien casualties at Roswell will become less important as a means of determining the authenticity of the story.

Radioactivity/Radiological weapons

Readers may be surprised to learn that whilst international treaties have been agreed to outlaw biological and chemical weapons between the major

powers, radiological weapons remain permitted by international law. Radiological weapons are not conventional nuclear weapons but are usually thought of as crude devices that use conventional high explosives to scatter or distribute highly toxic radioactive waste products of nuclear reactors into the atmosphere.

Radioactive products emanating from the operation of conventional nuclear reactors include mixed isotopes of plutonium, (14 are known to exist and all are highly radioactive and extremely chemically toxic) Strontium 90, Strontium 89 and Caesium 137 amongst many other equally noxious and dangerous materials.

Author Geoffrey Brooks [28] remarks that inhalation of just 1 milligram of plutonium (0.001 of a gram) would be sufficient to promote the death of the victim within the space of weeks and even the inhalation of even a very small dose of a microgram (a millionth of a gram) will result in probable lung cancer.

Whilst high explosives can distribute lethal doses of radiological material, other methods of distribution could be used to achieve the same objectives with no warning to the intended target. Under the right circumstances it would even be possible to release an aerosol spray of such material from an adapted civil aircraft. Brooks tells us that just 30 kilos of radiological material would be sufficient to irradiate a city of some 100 square kilometres to a height of 3 metres above ground level.

If that happened without warning, all life within the targeted area would die within weeks with all conurbations and infrastructure denied to others for a considerable time - maybe years. Fortunately, such a scenario largely remains an exercise in probabilities due to weather considerations and the vagaries of atmospheric conditions that would make it difficult for an aggressor to confidently predict results. However, it does highlight the dangers of allowing aggressive regimes access to the benefits of nuclear reactors.

ECAs - Earth Crossing Asteroids

In the main body of text readers will have seen many references to the potential hazards of asteroid attack. However, other less well-known scenarios of serious concern should be mentioned.

Whilst the possibility of a large asteroid impact (say, minimum 10 kilometres in size) would have devastating results, we should remember that for Earth to suffer such an event is fortunately extremely rare. For a globe some 7,900 or so miles in diameter to take a direct and solid hit is a very unlucky event cosmologically speaking when one considers the vastness of space. However, we should not be complacent in thinking that the odds are in our favour, particularly as we should regard the danger area as not just the Earth on which we live, but we should think of the danger area as being within the Earth/Moon system which stretches out almost a quarter of a million miles into space.

Even if we do not take a direct hit from a large cosmological body, and our Moon escapes a collision, a close approach within the Earth/Moon system may alter the Moon's orbit around the Earth which, despite from a slight axial wobble, is almost circular with very slight decay. External gravitational effects injected into this stable gravitational environment may cause the Moon to adopt an elliptical orbit. The elliptical displacement i.e., the shape of the ellipse slightly flattened and low relative Earth orbital velocity or very flattened and high Earth orbital velocity would depend on the mass of the cosmological body and its nearness of its approach to our system.

Such a radical shift in the Moon's orbital path around the Earth would have marked effects on our planet and all life - including us. The tidal system of our seas would be disrupted and we could expect severe knock-on effects to our global weather systems. An exaggerated Moon orbit would affect the seismic balance of the Earth, causing many more unpredictable seismic events than at present with earthquakes and volcanic eruptions occurring where perhaps none had occurred before. We could also expect heightened activity from existing volcanoes due to the stress caused by the oscillating Moon's gravitation pull our unusually large satellite continually exerts on us. An elliptical orbit would only tend to exacerbate this.

There is little doubt that complicated life would find it very hard to adapt to this new environment. Large areas of Earth would experience severe flooding each time the Moon came closest to Earth. Depending on how fast the Moon was orbiting, such flooding and increased tidal power of the Earth’s oceans could make much of the Earth's land mass uninhabitable and sterile for growing food and obtaining potable water. With increased volcanic and seismic activity,

the prospects for life would be bleak indeed. In this scenario we would not need a direct hit by an asteroid to finish us off...we would slowly starve and drown.

Techniques currently employed to look into the human body.

Apart from familiar X-ray procedures, modern scanning techniques involve the use of one or more of the following:

Ultrasound

A scanning technique that uses high frequency sound waves to bounce off internal body parts to determine density differences. The data is fed to a computer that interprets the information and produces images. Ultrasound is commonly used to check the condition of a growing foetus during pregnancy. It can also be used therapeutically in some circumstances to soothe inflamed muscles.

CT or CAT scan (**C**omputerised **A**xial **T**omography)

As a focussed beam of X-rays are made to pass through the body, the scanning device creates a tomographical picture of body slices in which a computer converts the data into readable pictures based on the amount of radiation which is absorbed by body tissue.

PETT Scan (**P**osition **E**mission **T**ransaxial **T**omography)

A PETT scan uses an X-ray scanning technique, which produces pictures of brain activity by the introduction of weak radioactive isotopes into the bloodstream and tracking them as they move through blood vessels in the brain. A Pett scan can map metabolic processes in the brain whilst it is receiving stimulation which causes changes in brain chemistry and electrical activity.

MRI Scan (**M**agnetic **R**esonance **I**maging or Nuclear Magnetic Resonance - NMR)

A MRI or NMR scan uses a powerful magnet to determine the magnetic bearing of atomic nuclei in the body. Atoms in the body are excited by the intense magnetic field and go into a high-energy state that causes them to generate very weak radio frequency waves. The data provided by that procedure is then converted into meaningful pictures that can be understood by the

technicians and clinicians. The MRI scanner can identify specific elements within human tissues e.g., carbon which denotes bone material.

APPENDIX TWO

The current accepted theory of the 'Big Bang' maintains that everything in our Universe came from an infinitely small and infinitely dense point called a 'singularity'.

From this bursting, out flowing 'singularity' everything was created including what we know as linear time *(author: or flowing time is another way of characterizing it – without adding linear time nothing can exist or function)* all matter and the space into which matter would expand. Seeing that nothing is known of what was in existence prior to the Big Bang, is it reasonable to imagine that the space into which matter expanded may have already been there? Could the exploding singularity have expanded into that space thereby inflating into what was already there, rather than the explosive singularity being responsible for the creation of our Universe, space, time and everything within it?

Using a balloon as a crude analogy, (the inside, not the outside!) it would mean the balloon already possessed some inflation that might have been sustained by extremely low particle counts from an evaporating singularity that would later exponentially expand or explode. However, the idea that an almost perfect vacuum may have surrounded and pre-existed the singularity would be heretical as it runs contrary to the general cosmological consensus.

Nevertheless, it does remain curious that *the singularity possessed both the information as to how much matter would be released as well as how much space would be required for that matter to be released into* i.e., the information would have to specify enough space would exist to contain the unevenly distributed matter in a method that would satisfy the genesis of our Universe and sustain it from the inflation of the singularity - a very basic question.

In very broad terms, there may not be too much actual difference between matter and the space in which it exists apart from that which is obvious to us. It is possible to imagine that space may be a comprised of matter in a different form i.e., radiation, tachyon waves and free but as yet undiscovered weakly interactive particles which collectively make up the much sought after missing mass of the Universe. Whilst it is now generally agreed that space is far from being empty, the use of ever more sophisticated tools continue to expand our

knowledge and understanding. However, generally speaking it is still thought that space exists as a perfect vacuum quite separate from the matter contained within it.

Space is filled with energy from evaporating stellar and intergalactic objects in the form of particles and electromagnetic energy across the entire electromagnetic spectrum. But this cannot tell us anything about the real nature of space before the Big Bang; it remains very much open to conjecture and scientific debate.

In our thought experiment, it could be that space surrounding the singularity before ignition may have existed as a discrete energy field separate from matter but as an intrinsic part of the overall system. Therefore pre-Big Bang space, far denser than space today, had to pre-exist *with the singularity* so as to empty itself into the matrix which became our Universe via the stupendous kinetic energies that must have been involved - thought to have incurred temperatures in excess of 1.5^{o} billion Kelvin. In all respects, the singularity may have been *unable to ignite and explode unless all the conditions were right for it to do so.*

If you cannot accept that the Big Bang was responsible for creating space, time and everything in it there exists a whole range of unanswered questions e.g., 'How could empty space pre-exist without time if, and as is commonly held, a singularity caused time to exist in the first place?' and 'How big was space before the Big Bang?' 'Was space created at the same time as the Big Bang? And therefore as result of it?' and, 'How many dimensions were necessary for the singularity and space to co-exist prior to the Big Bang event?'

It is easier to imagine that matter and the space into which matter expanded were, and still are intimately interlinked and inseparable and not extant merely as a result of cause and effect. After all, what need would there be of empty space with almost non-existent particle densities if the Big Bang event was never to occur?

If space pre-existed the Big Bang it would mean that space had somehow *anticipated* that a Big Bang event might occur or that space existed as a necessary precursor to the Big Bang. It would also mean that some particles had somehow come into existence prior to the Big Bang.

Cosmologists believe they know much about what happened milliseconds after the Big Bang through observing and measuring our Universe as it is today.

Unfortunately, the extent of their knowledge is limited to those first few milliseconds after it was said to have happened and what existed before is still open to much debate and much speculation. This is why we are conducting our thought experiment.

As to why the Big Bang happened at all, in the absence of any other reasonable theory, some cosmologists think the Big Bang occurred because of a relative imbalance of matter/anti-matter ratios at quark level or that a 'stray' anti-matter particle encroached into a supra dense field of normal matter (our matter) and caused an irreversible runaway quantum event...

The once *stable singularity (author: italicised because it is proposed that not all singularities are stable within my model)* may be thought of as the opposite to a Black hole, the yet as undiscovered theoretical 'White' hole which some think to be a likely cause of what seemed to be the occurrence of spontaneous matter in our Universe. However, the spontaneous appearance of matter still does not address the issue properly or satisfactorily and presents as many vexing problems as the Big Bang does.

In a scenario which denies pre-existent space surrounding the singularity the message seems to be that our Universe may have occurred because of an accident of Nature, a sub-quantum* effect perhaps. It seems that once such an unlikely event as a Big Bang occurs, there is nothing to stop Nature into compiling a beginning, middle, and end from a simple set of instructions or algorithm based on particular circumstances. *But randomness in an unlikely event may not be a sufficient driver to construct our Universe and maintain it as we know it today.* We should therefore look elsewhere.

Not only has matter been created, but a different time has come into being which serves to drive the whole system within the dynamic i.e., conventional flowing linear time out of non-flowing stasis *(author: this is a difficult concept but one which can be used in the thought experiment - the dynamic of an exploding singularity cannot possess the same dynamic pre-Big Bang).*

*The phrase 'sub-quantum' is used to describe a process, or processes which might appear as detached from the confusing principles of quantum theory in which, stated crudely no certainty exists, only probabilities. Under these terms, 'sub-quantum' may paradoxically operate on a higher level than the proposed uncertainty principles of quantum theory and may have relied upon one-time short lived electrical charge or wave differential on the theoretical quark (see

Notes) other than which is predicted today. This will also include ‘one-time’ wavicles* that no longer exist in our Universe.

*wavicles...essentially particle or wave dualities depending on frequency and probability within time.

However, it is very unlikely that an archaic signature of such wavicles will provide evidence of their short existence at this distance from the event. That hypothesis could mean a form of momentary natural organisation or stabilisation (within what were essentially very chaotic states) occurring thereby achieving a momentary balance akin to what we might describe in human understanding as a form of *consciousness*, triggering the Big Bang.

Such exotic states will be unknown to us of course but Nature may provide some insights into the process via extensive studies of chaos networks and computer simulations in the future rather than high energy physics.

There is nothing inevitable about the process and initiation of a Big Bang. Inevitability only sets in after the event has been started. If space pre-existed the singularity and an almost impossible quantum accident caused the singularity to become terminally unstable, it would provide the mechanism by which the event could occur and self sustain.

This solution seems to be a better alternative to another other postulated model which supports the idea that somehow a stray particle or anti-particle wandered in from multi-dimensional space to upset what is perceived as a natural balance in Nature.

It is interesting to note that whilst scientists now believe that there may be at least 10 dimensions (and many more in particle physics), Nature appears to little need of any more than 3 dimensions (4 if you include time) all of observed Nature fits comfortably within these simple constraints. As Nature has permitted itself to use just 3 or 4 dimensions in all perceived creation, it must be reasonable to think that Nature will exercise the same economy of scale anywhere other than our particular Universe.

There simply is no need to complicate matters by having any more than the minimum dimensional requirements. Such features would almost inevitably be energy 'hungry' in sustaining their existence in other than a trans-dimensional role*. As we know that Nature has a built in redundancy feature to ensure the

survival of all the creationary process therefore it is possible that Nature may have created more than one Universe from one Big Bang.

*Dimensions, which exist in more than the required number in our Universe, might be able to theoretically exist in transit mode between different states of being but not in permanent resident mode.

Cosmologists currently estimate that the age of the Universe is between 10 and 20 billion years old, whilst current satellite data indicates that it may be around 12 billion years old at most. No one knows how long the Universe will continue to exist but it is thought that the lifespan of our Universe is linked inextricably to its continued expansion.

Studies in recent years indicate that the Universe shows no signs of slowing down its expansion and, to the contrary, seems to be speeding up its expansion for unknown reasons *(tachyon 'push' overcoming gravitational regression?)*. However, I have already mentioned elsewhere that such measurements are made by studying the recessions of distant galaxies (the Hubble Constant) hence the wide spread of 10 to 20 billion years. Better estimates in future will no doubt be made using more sophisticated instruments. But even if we know the current age of the Universe we still have little idea of how long the Universe will remain in existence, and what eventually may be its fate.

As our Universe continues to expand it cools. If it continues to expand and continues to cool and nothing else happens except matter continues to interact with matter, the ultimate age of the Universe will be linked to the natural decay, or evaporation of matter into radiant energy of the proton of hydrogen, the most abundant element in the Universe. (The hydrogen atom has its nucleus as a single positively charged proton with one electrically negative electron orbiting it). This kind of decay has been estimated to take at least 10^{300} years - an unimaginable large number!

The physical rules concerning the conservation of energy is sure to keep our Universe existing for billions of years to come, but eventually the amount of matter capable of interaction will become depleted and it will start to run down very rapidly. Some scientists call this process the 'Big Crunch' where it is thought that another Big Bang could occur out of a collapsing Universe as a result of a 'rebound' effect thereby starting the whole process over again.

However, it is not well understood how an unimaginably vast amount of space in which once housed an equally vast amount of matter could continue to exist if the remaining matter fell in on itself. Neither is it understood how the central point of such a collapse is selected* or how space-time would be affected by such a collapse.

*Probably arrived at principally by the prior collapse of the massive black holes at galactic centres. However, some randomness in selection may occur under the laws of thermodynamics.

As far as space-time is concerned, the nearest we have come to understanding of what might happen is to imagine that we would witness time flowing in reverse as well as forwards! - If humankind still exists when that collapse happens of course. A neat solution and a positive resolution of such problems, in which some cosmologists postulate time would seem to run backwards to infinity and consequently start another Big Bang due to compression of the Universe to start the whole process all over again! This is the so-called 'Big Crunch' scenario.

However, our thought experiment not only postulates that more than one Universe will have been created at the same time from the Big Bang/Big Push, but also attempts to explain how and why the event occurred in the first place and how similar events may be happening constantly, thankfully completely outside any possible detection by us. I also illustrate how my version of a closed system may decay and eventually get re-cycled in a birth/death and re-birth cycle without a 'Big Crunch'.

The entire dynamic may be sustained and driven by a system of discrete electromagnetic field densities but we shall have to wait for science to determine specific details. Unfortunately, it seems unlikely that this characterization will not come through conventional observation of our Universe.

However, new scientific discoveries are happening all the time and recent cosmological observations indicates that the billions of galaxies, including own Milky Way, may harbour a super massive black hole at its centre. Fortunately for most galaxies, the black hole tends to be generally moderately quiescent, but some are very active indeed and can result in a boiling seething nucleus jetting off gaseous material into deep space manifesting themselves as quasars. Some cosmologists now suspect that black holes (you can think of them as super dense

gravity wells) are an integral part of the formation and maintenance of galaxies and eventually, the death of galaxies.

If super massive black holes do exist at the centre of all galaxies - and it now seems they do - it seems possible that their dynamic influence not only dictates the state of the particular galaxy they inhabit, but also the galaxy's peregrinations in space-time within what seems to be a continually expanding Universe where galaxies generally keep apart from one another. Accidents still occur when galaxies collide and merge indicating that the inflationary process is still in progress which is corroborated by the 'Red Shift'.

In the Big Bang scenario inflation is thought to have occurred very rapidly but whether the inflation I have just mentioned is the result of a 'coasting' effect following the Big Bang or a steady state process following a 'big push' should not be discarded out of hand. Perhaps our visitors are more aware of the solution than we are and use their superior knowledge to traverse the galaxy?

The Multiple Closed System Model - Summary of Main Features

The model pre-supposes a smooth but stupendously electrically charged state of a number of kernels* (or nuclei) each one isolated from the next in a self-contained system comprised of super dense WIMP fields in which the kernels are suspended. There are no limits to the number of kernels and super dense WIMP fields other than the total number that can be accommodated by the overall system. No hypothesis can be made as to the number of kernels or WIMP fields within the system. The boundary layer surrounding the WIMP field is an impermeable casing to kernel material and has a fluctuating electrostatic charge equal to the boundary charge of a kernel. The kernel material can never approach or contact the WIMP confinement casing.

*Kernels may be comprised of primordial waves/particles, anti-matter, plasma and undefined nuclei in a quiescent but stupendous electrostatic charged state. Kernels will have a super dense boundary field that separates it from the less dense WIMP field.

The matrix of WIMP fields will be subject to quantum gravity leading to local compression of individual WIMPs that in turn will squeeze the kernel in question (cause and effect). More than one WIMP system may suffer compression during this process but not all will 'mature' and may revert to

‘smooth state’ following one kernel ignition (Big Bang). In that stressed kernel, irreversible events will occur as it is forced to heat up rapidly causing it to become misshapen.

Kernel compression will cause a ‘bounce’ effect prior to ignition and strong, continuous fluctuating tidal fields will increase the temperature of the kernel. The super-dense WIMP containment field eventually fractures in local stress lines due to *quantum tunnelling and the super heated kernel material erupts into the fracture. The initial burst causes dimensional anomalies as time starts to sequence...dimensional strands and dendrites burst into the WIMP field and spread randomly into the WIMP matrix. Smoothing of disseminated kernel material begins to occur as pressure and temperature reduces, initial blast waves begin to subside as the velocity decreases...discernable sub-atomic particles begin to appear, one-time wavicles (waves and particle dualities) have now largely gone. The blast now becomes a ‘push’ and the smoothing of the kernel material continues with the largest WIMP volumes receiving the greatest material. Linear time begins to flow...*without time flow nothing can proceed or exist.*

The dimensional anomalies subside and eventually evaporate into the super heated particle maelstrom. By this time, many individual universes will have been created but not all will be viable or lasting, some universes may dimensionally overlap their neighbours. Based on size, spread of material and volume some of these ‘under nourished’ universes may be thought of as *runt* universes. They will have very little nebulous material and will be incapable of incorporating stellar bodies or galaxies. As smoothing continues they will naturally evaporate and become incorporated in viable universes over billions of years.

Stabilization of the kernel continues and the consolidation of nebulous material leads to the creation of massive black holes, viable stellar systems, galaxies and planetary systems. Over many billions of years in the life cycle of the kernel, contraction starts to occur due to cooling and entropy. As cooling progresses, strands or dendrites start to appear once more. Energy exchanges occur that will shrink the universe even more. Occasionally, during the process quasi Big Bang type ignition may occur but it cannot be sustained because of the lack of electrostatic/ionised material available to re-start and maintain another Big Bang.

As the universe decays it shrinks even smaller. Dendrites form in large numbers and it becomes unstable. By this time, most matter that has been used in maintenance of the cycle has been re-absorbed back into the dense kernel boundary system. Only a very low order of matter/radiant energy remains and system tides crush the depleted WIMP fields together with what remains of the kernel. Eventually, the weakened impermeable WIMP shell becomes incorporated into another cell membrane and the smooth states of other embryonic kernel systems – awaiting another cycle of creation and re-cycling to occur.

*Quantum uncertainty states are *essential to the process of genesis* and it seems likely that quantum uncertainties remain throughout the life cycle of the kernel system (we do not '*feel*' the powerful effect of these processes in our reality). When the kernel life cycle is nearing completion, these *quantum uncertainties will re-appear as transmogrification occurs in the system*.

Last Words:

There is little doubt that the passage of time will slowly uncover more of Nature's mysteries to mankind as we reach out into the Universe and evolve as a species. Whether or not we do this on our own with no outside help may now be in the balance, but when we do step out into our vast Universe and seek other worlds we shall see that it is *teeming with all types of life...life in all its' forms...life of the lowest order, life with recognizable parallels to ours and intelligent life far wiser and older than any civilization on Earth.* There will be challenges and we will have to adapt and swallow our intellectual pride. We shall also have to overcome our most basic tendencies and prejudices.

Mankind has to step up to these challenges because it is our destiny and our duty to do so if our species is to survive. However, we still have a long way to go before those giant steps are taken. Firstly, we need to organise ourselves much better on our small blue planet, we need to repair and solve our racial and religious differences trusting one another more, promote harmony with nature, provide more equality and education, stop killing each other, control our populations and seek better ways to provide the necessities we all need to survive.

If the visitors could laugh, they surely would be laughing at us now. If they are acting as disinterested observers or other have other sinister designs on us, they will have no sympathy or understanding of our human foibles and will use

our weaknesses against us so as to exploit us. They will have no interest in whether they are ridiculed or used by governments as cover for secret military products, they will be confident in their technologies and their power...they will undoubtedly continue with their agenda until they reach their objectives.

On the other hand, if they possess compassion and empathy for us and are an evolved species, they may look on us benevolently and help us to become as them...I hope that is the case. If some of our technocrats and military leaders are being complicit in a secret collegiate with the visitors, we need to know why and how that has occurred. If these conspirators *know* we are powerless in the face of the alien visitors and they mean us harm, we need to know that as well...even more so – especially if the visitors are exercising any kind of control or influence over human affairs without our consent.

Alternatively, it could be possible that NASA has been selected by the military/industrial and political leaders to 'drip feed' the world as to the existence and presence of the alien visitors? US Government sponsored/owned NASA would be an ideal (and possibly the only) candidate for that job and could control the release of science based 'new discoveries' through their exploratory space mission programmes and other science projects. In that way, the timing of the official disclosure concerning the existence and presence of alien visitors on our planet can be controlled and 'owned' by the USA as there are clearly huge benefits in being the first 'contact' nation. In that scenario, it is very likely such control has been in place for decades. We need brave and wise leaders to help us evolve so we can become of age in space exploration. We need frankly, to grow up so we may all take part in the new challenges that await us. Can our politicians, religious leaders or even NASA do that for us?

I think it unlikely we can find the solution within politics or religion based on past performance...the political and religious leaders are either too frail or just simply, unsuitable. We need someone from outside to help and mentor us...someone or something to unite and inspire us beyond our own intolerances and prejudices...no one can do that better than friendly visitors from space. It will therefore be imperative to know who our friends are...and those who can never be our friends.

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